Ground Combat Vehicle (GCV) Inc 1 - Infantry Fighting Vehicle

(version 2.0)

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MCoE - Infantry & Armor School

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This System Training Plan (STRAP) is preliminary.
Front end analysis (mission, task, job) is ongoing. MCoE - Infantry & Armor School will amend and update this STRAP as details solidify.

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1.0 System Description

The GCV is a required and essential capability for the Army and the Joint warfighting force to be successful in the future from 2020 to 2050. The GCV will integrate operational lessons learned from the current operating environment, facilitate technology acceleration, with greater reliability and maintainability, and will provide a safer system with greater commonality than the Bradley, M113, and Stryker. The GCV addresses the Capstone Concept for Joint Operations (CCJO) through rapid, lethal, precision engagements in adverse and hostile conditions; provides endurance and resiliency through improved reliability; and supports agility and expeditionary needs through enhanced networking of total system status. Current Army fielding plans will have a mix of brigade combat teams (BCT) working side by side through 2050. The GCV must be complementary and maintain lethality and survivability overmatch against the present and future threats.

- Operating Environment of the System. GCV is envisioned as an expeditionary force capability, equipped to execute the full range of military operations (ROMO) throughout a broad spectrum of terrain and environments to support Joint and coalition forces.
- System of System and Class of Systems discussion. GCV is potentially a suite of vehicles that have comparable levels of survivability and information system capability (common basic capabilities) that individually are specifically tailored to provide unique roles/functions across those GCV-equipped formations. The GCV concept is resident in the BCT operations 2020 white paper and Operational Mode Summary and Mission Profile (OMS/MP).
- GCV Increment 1 is the Infantry Fighting Vehicle (IFV) variant. This version of the STRAP will primarily focus on that variant.
- Future GCV-FoV development Platform variants may include:
    - Infantry Fighting Vehicle (during increment 1)Mission Command (MCmd) Variant (includes a Fire Support Team variant for BDE/BN fires cell personnel)
    - Reconnaissance/ Cavalry Variant
    - General Support Variants:
        - Ambulance/Medical Evacuation and Medical Treatment
        - Engineer Support
        - Maintenance Support
        - Armored Security
    - Fire Support Team Variant (13F)
    - Mortar Carrier Variant
    - Cannon - Indirect Fire Variant

- Direct Fire Variant

The GCV will support the Joint Force to: maneuver, destroy, defeat or disrupt an adversary system of offense and defense, assist in preempting their freedom of action, defeat or destroy the threat and protect Joint and coalition forces. The GCV supports Unified Land Operations (ULO) by being fully integrated, expeditionary, networked, decentralized, adaptable, and lethal, and by supporting decisive actions. The GCV will maintain overmatch against all known potential future adversaries. The GCV supports force application, mission command, net-centric, protection and force support.

Projected date for FUE: 3Q FY21.

Projected date for IOC: 1Q FY22.

2.0 Target Audience

- Ground Combat Vehicle (GCV) Infantry Fighting Vehicle Variant (IFVv) capabilities, planning considerations, and training, will be integrated into all Professional Military Education (PME) for the targeted CMFs. The GCV-IFV shall not change existing personnel structure and will not require additional personnel or special skills to operate, maintain, or support the vehicle. The GCV-IFV will not add any new Military Occupational Specialties. Primary users of the GCV-IFV are those Soldiers (enlisted, warrant officer, and officer) assigned or being assigned to a GCV equipped Armor Brigade Combat Team (ABCT). A separate Additional Skill Identifier for GCV qualifications will be required.
- The GCV-FoV will not increase the number of contract personnel supporting the Army today. Contract personnel may be required to support the GCV-FoV at the depot level. The number of personnel required would be the same as those currently supporting the Bradley FoV. GCV Soldiers and their units will train during live Force-on-Force (FoF) exercises at institutions, home station, and local training areas, maneuver Combat Training Centers (CTC), and deployed training sites.
- Additional skill identifiers (SI) will have to be developed to identify crew qualification of the GCV family of systems to include: operators and crew members of the GVC weapons systems variants, Master Gunner (MG) skill qualification, and the variant system maintenance skill qualifications.

TARGET AUDIENCE				

MOS/ASI/AOC	Infantry School	Signal School	Ordnance School	Armor School
Initial Military Training				
25C Radio Operator Maintainer		X		
25U Signal Support System Specialist		X		
91F Amament Repairer			X	
91G Fire Control Repairer			X	
91H Tracked Vehicle Repairer			X	
913A Armament Systems Maintenance WO			X	
915E Senior Automotive Maintenance WO			X	
Professional Military Education (PME)				
MCoE Capatain's				

Career Course (11A Infantry Off, 19A Armor Off)	X			X
Infantry Pre-Command Course	X			
Armor Pre-Command Course				X
11B - Advanced Leader Course	X			
MCoE Senior Leader Course (11B / 19D & K)	X			X
Functional Courses				
TBD - GCV IFV Crewman Course	X			
TBD - GCV IFV Leader Course	X			
TBD - GCV IFV Master Gunner Course	X			
Civilian Education				

TBD				
Other				

Additional Information/Requirements:

3.0 Assumptions

- Pending results of Total Army Analysis (TAA) 2014, the training community assumes there will be ten Armor Brigade Combat Teams (ABCT) comprised of three Combined Arms Battalions (CABs) for a total of 30 CABs within the Active Component. Each CAB will have twenty-nine (29) GCV IFV platforms, with an additional three (3) platforms in the Brigade HQ. Approximate number of GCV IFV variant will be 910.
- MCoE as the lead for GCV IFV training in the Institutional Domain will stand up three courses to train the IFV variant, courses include: Leaders course, Crewman course, Master Gunner Course. Approximate course loads are: Crewman - 303 per year, Leader - 606 per year, Master Gunner - 30 per year.
- No new requirements for operator or maintainer MOSs are anticipated for the GCV.
- The GCV shall be operated, maintained, and supported by the same organizations that perform these functions today for the current force.
- Institutional and unit training documents will require revision and updating.
- GCV system design will allow military manpower to effectively maintain the system/platform at the field level without using contractor personnel or field service representatives (FSR).
- Maximum use of advanced instructional technologies will be used to provide Embedded Training (ET), distributed Learning (dL), and interactive multi-media training products - Level III.
- ET will be an integral part of the GCV training strategy for crew/operator development within the institution and operational Army (AC/RC). ET will complement, but not replace stand-alone training devices (Advanced Gunnery Training System (AGTS), Close Combat Tactical Trainer (CCTT), Driver Trainer) during initial fielding of increment-1 systems.
- The proponent will provide US Army Program Executive Office for Simulation, Training and Instrumentation (PEO-STRI) with GCV training information to enable LVCG representation of GCV functionality, as required.
- If a fully embedded training capability is found to be technologically infeasible or too costly, a suite of TADSS, both appended and stand-alone, will be required.
- Web based training products (IMI) must be compatible with the approved Army Learning Management System (LMS), and distributed over the Army Training Network (ATN).

4.0 Training Constraints

Constraints related to Manpower and Personnel Integration (MANPRINT) domains are for the most part still to be determined. Numerous questions and issues bearing on the manpower requirements remain. Additional efforts will be made during the system development and demonstration phase, and as this system and the GCV BCT mature, more details will be added.

Constraint Type	Probable Impact	Mitigating Efforts
Manpower (institutional training)	Insufficient number of instructors to train the load	Increased reliance on contract instructors
Manpower (Doctrine & Tactics Training)	Insufficient number of instructors to conduct DTT	Increased reliance on Virtual-Net
Personnel Capabilities	TBD	
Budgetary	Restricted vehicle movement (OPTEMPO) and Live fire	Increased reliance on ET and stand-alone TADSS
Training equipment availability	Students will not receive training on live vehicles	Increased reliance on simulations

Equipment density	Student to equipment ratios can not be met or maintained	Decrease class size, increase frequency
Total number of personnel to be trained	Small training load will not produce instructor requirements to train a course	Slip course start dates, functional training, mobile training teams
Unit and command-unique requirements	TBD	
Training facility requirements	Training will not be supported as planned	
Safety hazards and restrictions	TBD	
Noise abatement requirements	TBD	
Environmental requirements	TBD	
Support services	System failures degrade	CLS on TADSS, ET, system

(contractor support)	or halt training	maintenance
Command guidance (ARFORGEN)	TBD	

Training constraints requiring resolution are:

(1) Providing embedded and stand-alone training devices that train or support the training of individuals, crews, maintainers and leaders. This includes both system and non-system TADSS.

(2) Providing training devices and other essential training products to the training centers of excellence and schools in time to prepare Soldiers, Warrant Officers and Officers for initial system fielding. These devices and products must maintain interoperability with the current force training systems.

(3) Delivery of technical information and data to satisfy training requirements for the units, the training centers and the training base. This includes the hardware, software, and communications systems that support the analysis, management, and development, distribution, and delivery of training, all of which are enablers of the Training Support System (TSS).

(4) Timely delivery of training support products that support Unit

Set Fielding (USF) and include, but are not limited to, individual and collective Training Support Packages (TSP), multimedia course materials, dL courses and lessons, and other training material and products needed to train one or more individuals or collective tasks.

(5) Sustaining BCT interoperability with joint, coalition, current force in scenarios, Live, Virtual, Constructive, Gaming (LVCG), exercises and Mission Training Complexes (MTCs) and facilities.

(6) Training support facilities and equipment to include the real property, such as classrooms, dL training facilities, buildings, training ranges, fixed tactical internet, simulations facilities, Materials Handling Equipment (MHE), special tools and equipment are identified and integrated into the associated TSS (see paragraph 6.1.1.4, Training Facilities and Land for an expanded list of issues).

(7) The Basis of Issue Plan (BOIP) for each proponent system addresses training base, training center or TDA requirements for systems. The training base requires fielding of proponent systems in parallel with unit fielding and comparably equipped to Table of Organization and Equipment (TO&E) platforms to sustain GCV training requirements and capabilities.

(8) Funding the costs of vehicle operation and OPTEMPO miles to support live training events. Live training events can be supplemented by use of TADSS, but sole use of TADSS and ET to sustain Soldier and unit readiness will not be acceptable.

(9) Funding the cost of live fire with the primary weapon system (due to the expected high cost of ammunition, kinetic energy, chemical energy

(CE), or smart ammunition). Inexpensive training rounds or simulation must be available to permit requisite live fire sustainment and meet proficiency qualification standards for most live fire engagements.

(10) Difficulty in scheduling and integrating airlift and sea lift to support GCV deployment training and exercises.

5.0 System Training Concept

- GCV training is organized into three phases: the NET Implementation Strategy (Warfighter Modernization (WarMod)), the Institutional training strategy (Warrior) and Operational (Unit/Sustainment) training strategy (Warfighter). The Reserve Component (RC) will train system personnel based on the Total Army Training System (TATS). Initial training on the GCV system will be conducted through NET and subsequently at the Maneuver Center of Excellence, within the Infantry School, and at the Sustainment Center of Excellence, within the Ordnance School. Training of the GCV system will be developed using Army Learning Model methods, conducted using a traditional training strategy: Instructor and Key Personnel Training (I&KPT) and New Equipment Training (NET) for equipment introduced to the field; institutional training for Initial Military Training (IMT) and Professional Military Education (PME); and unit/sustainment training for sustainment, transition and collective training in the unit. GCV system and unit collective training will be conducted using live, virtual, constructive, and gaming methods, enhanced by integrated training enablers, on a vehicle designed to host enhanced ET.
- Operator and maintainer training will be designed to support and sustain the required levels of training readiness for the GCV by leveraging existing institutional and unit training profiles with the addition of tailored GCV simulation, embedded training, New Equipment Training (NET) and Field Level Maintenance New Equipment Training (FLMNET). Existing military training facilities must be modernized to reflect the GCV unique characteristics and requirements. Courseware shall be developed using the methods described in the Army Learning Method, TP 525-8-2 w/ Ch 1 6 June 2011. Courseware shall be provided in electronic format that is compliant with the latest version of the DoD Standard Content Object Reference Model (SCORM). Standard operating Services' training processes shall be followed to determine training requirements. These requirements along with the design solution shall be documented in the Training Development Capability (TDC) database. The training concept will employ cost-effective solutions for institutional and operational training consisting of blended capabilities using stand-alone systems and the ET capability. Unit sustainment training (individual and crew tasks) will require stand-alone systems for force-on-target (gunnery) and force-on-force (maneuver) training. Based on the number of vehicles allocated to the school and a cost and training effectiveness analysis, initial military training (individual tasks) will be supported by a driver's trainer, gunnery trainer, and maneuver

trainer. Maintainer training will include a combination of simulators and simulations (desktop trainer and hands-on trainer (HOTS)) reinforced with hands-on training using live vehicles. Reserve component Soldiers trained by TRADOC proponent schools will receive the same training as Active component Soldiers.

- The training concept for GCV focuses on achieving an ET capability within the system that will support training of individual and crew tasks within the Live, Virtual, Constructive, Gaming - Integrated Training Environment (LVCG-ITE). Training software applications that are fully integrated into the GCV digital system and vehicle vetronics architectures will provide this capability. The GCV ET capability will utilize the organic operational equipment supported by the onboard C4, information management, and vehicle electronics systems to present training content to the operator / crew, maintainer, and leaders in the BCT training audience through the GCV vehicle operator controls and Warfighter Machine Interface (WMI). This approach will maximize the common look and feel between mission planning, training, and operations for Soldiers to maintain operator and crew proficiency.
- Embedded Training (ET) Concept. The embedded training concept is to train all, individual and crew, tasks using the embedded training capability, a capability which will evolve over time. The long range vision is an ET capability that supports training the full range of individual, crew, leader, staff, and unit collective tasks in the LVCG-ITE. Included in this vision are: on-the-move mission rehearsal and storage of collective exercise data (e.g., AAR) at the BCT level, replication of battlefield effects for force-on-force and live fire training, and "Reach" through a wireless network to distributed training knowledge repositories within the Army Knowledge Enterprise (AKE), where updated training materials can be downloaded as required. The objective capability reduces or eliminates the need for many of the stand alone Training Aids, Devices, Simulators and Simulations (TADSS) currently required, and provides the GCV an "expeditionary" flavor. Capabilities may include an embedded full task training capability for virtual maneuver and gunnery that can be linked wireless up to the BCT level. The on-board mission command system provides mission data, maps, and overlays. In addition, it supports leader and staff training on the platform. This may be possible if linked to the mission command systems currently under development, such as the Joint Battle Command-Platform (JBC-P). Based on variant, GCV will provide an embedded training capability for platform specific individual (operator and maintainer) and crew tasks (crew drills) within the LVCG-ITE. Within this construct, ET supports mission rehearsals, saves training exercise data for AARs, provides

the capability to access doctrinal references, and supports Embedded Tactical Engagement Simulation (E-TESS). This embedded training capability should be developed as an integral part of the GCV manned platform and command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) architectures. ET must be designed-in at the start of the program to ensure it is developed in conjunction with the other GCV components.

- The GCV must be capable of supporting operations, mission rehearsal, and training of separate audiences (soldiers, units, leader/staff teams) simultaneously.
- Reserve Component.
    - Institutional Domain. The training concept for RC (Army National Guard and US Army Reserve) units equipped with the GCV shall be the same as for the AC. IMT Solders will attend the proponent school basic course (OBC, WOBC, BCT, AIT, OSUT) to receive initial qualification within the affected MOS or AOC. Professional Military Education (PME), functional and ASI producing courses will be developed and offered within the Total Army Training System (TATS) as resident and non-resident programs. TATS courses will be designed and implemented to accommodate RC training constraints (a limited number of training days: Inactive Duty Training, Unit Training Assemblies, and Annual Training periods). Course design will take full advantage of web-based training (interactive multi-media instruction delivered via the internet) and distributive learning to train the knowledge component of critical tasks. The hands-on component of training and culminating exercises will be conducted while in a resident setting at a school, Regional Training Institute (RTI) or TASS battalion.
    - Operational Domain. The training concept for AC and RC units is essentially the same. However, RC units are severely impacted by the number of days available for Active Duty Training, Unit Training Assemblies, and Annual Training periods, especially early in the ARFORGEN Cycle (Re-set/Train Phase). Unit commanders within the RC must plan, prepare, execute training, and conduct rigorous after action reviews in order to assess unit sustainment and collective training accomplishments. Geographic dispersion of units in the RC must also be factored into Training System allocations. Some units (BCT's or Bn's) may be distributed across several states/ locations that may even be geographically distant from each other, even as much as several hundred miles distance. This is habitually the norm in the Reserve Components as compared to their AC Counterparts where home station is habitually where

all associated/ assigned subordinate units of the ABCT are located together, or within close proximity. Allocation of training support systems must account for this extended dispersion and distribution of RC units, to properly facilitate training system allocation. An example of this extended dispersion is the 81st ABCT, WA ARNG, who's Headquarters is located near Seattle Washington, but has subordinate units located in Oregon State and as far south as Southern California. Mobile trainers and Table-top-trainers should be considered to support the widely dispersed "home-station" training locations.

5.1 New Equipment Training Concept (NET)

- New Equipment Training (NET) is required during system fielding. NET shall be provided to receiving units at the time each unit receives the GCV. The GCV fielding plan will include a training package that resources all leader training, operator and maintainer training, ammunition, range, logistical, and technical resources for each GCV fielded. The NET program of instruction (POI) will be included in the TSP and be validated during train-up for the technical/operational evaluation window. The new equipment training team (NETT) will conduct initial training of individual and crew collective tasks. Unit personnel will receive training necessary in the skills and tasks required to accomplish the unit's mission. The NETT will train the unit in operation and employment of the system, operator and unit maintenance, and operations. During NET, key personnel will also receive instruction and training to prepare them to execute, integrate, sequence, and apply the GCV training resources in an effective and efficient manner to sustain a trained status within the unit. A complete Training Support Package (TSP) with all necessary training materials (POI, lesson plans, slides, handouts, practical exercises, examinations, CD-ROM, operator videotapes, etc.) will be left with the unit to use as a basis for sustainment training. The System Training Support Package should use Interactive Media Instruction (Level III) and be designed for multipurpose use in support of institutional training, NET, and unit sustainment training. The materiel developer, will plan, organize, fund, and field the NET effort per DA PAM 350-40 as Total Package Fielding (TPF).
- The material developer (MD) will provide an exportable NETTSP that will support NET for crew/operator, maintainer, and unit sustainment training. The NETTSP will be developed concurrently with the GCV system hardware/software (as applicable), approved by the proponent TRADOC school, validated during IOT&E, and in place when system fielding begins. The NETTSP will include a complete set of digitized training materials that include Electronic Technical Manuals (ETM)/Interactive Electronic Technical Manuals (IETMS), task list, Program of Instruction (POI), Lesson Plans, Student Guides, embedded training and a Web-based Interactive Multimedia Instruction Distributed Training Vehicle (IMI DTV) package on the operation and maintenance of the GCV. The embedded training and IMI DTV will be used in conjunction with the NET Fielding TSP to facilitate unit sustainment training. The electronic products will be made available to the Central Army Registry (CAR) where the Web-based products will

be maintained as an important mechanism for distributed learning and self-development following unit fielding. These products must be Sharable Content Object Reference Model (SCORM) compliant. The TSP will be designed and developed in accordance with TRADOC Regulation 350-70 using the Army Learning Model process, developed concurrently with the system and delivered as draft. All training and doctrinal analysis data will be documented using the Training Development Capability program.

- NET for RC units will be coordinated by the MD and Chief, National Guard Bureau (CNGB), the Chief, Army Reserves (CAR), and gaining commands to ensure objectives are met. Coordination must consider ARFORGEN process, training locations, planning timelines, and time to program and budget funds to support training.

5.2 Displaced Equipment Training (DET)

As of the writing of this document, systems to be displaced by the GCV may include the M2 Bradley Fighting Vehicle. It is unclear at this time as to the disposition of the displaced systems and training required by possible recipients.

5.3 Doctrine and Tactics Training (DTT)

As proponent for the GCV IFV variant, the Maneuver Center of Excellence (MCoE) is responsible for the development of Doctrine and Tactics Training (DTT). MCoE will develop any new DTT through the review of applicable operational concepts and identify the need for such training to the Material Developer (PM - GCS) for inclusion within the NET PLAN (NETP). DTT will be presented as part of NET and in conjunction with test events required for development of the GCV. DTT will be added to applicable Doctrinal manuals during the normal document update period.

5.4 Training Test Support Package (TTSP)

The Maneuver Center of Excellence (MCoE) is responsible for the development of a TTSP, for the IFV platform to support training of test player personnel participating in operational testing. GCV will be fielded IAW the USF process. The TTSP will reflect the IFV systems available for the NET and there will be minimal changes, as approved by the Commander, MCoE, in equipment or software in the period between the NET and the initial BCT IOT&E. The PM-GCV will provide updated instructional material and instruction to accommodate all changes. There will be a freeze on all hardware and software changes six months prior to IOT&E. The training developers from the proponent variants, along with the Sustainment Center of Excellence (SCoE) training developers, will compile the TTSPs after receipt of the NETTSP from the materiel developer and the contractor. The TTSP will consist of the following items:

- Latest approved STRAP for GCV *****
- Test training certification plan *****
- Training data collection requirements *****
- Test Resource Support *****
- Training schedule for test player personnel
- POI for each MOS participating in the test
- List of training devices required and embedded training (ET) modules
- Soldier training publications, or changes
- Lesson plans
- Appropriate FMs, Combined Arms Training Strategy (CATS), or changes
- List of facilities, ranges, targets, ammunition, etc., needed to support the training
- Critical task list
- Target audience description (TAD)

Items followed by an " ***** " in the above list constitute the initial TTSP, and must be submitted to the testing agency nine months prior to testing. The final TTSP must be submitted no less than sixty days prior to start of test player training. An informational copy of the approved TTSP will be forwarded to the Army Training Support Center (ATSC).

6.0 Institutional Training Domain

The Institutional Training Domain is the Army's institutional training and education system, which primarily includes training base centers and schools that provide initial military training and subsequent professional military education for Soldiers, military leaders and Army civilians. This domain includes the centers of excellence and schools, both inside and outside the U. S. Army Training and Doctrine Command (TRADOC). The institution will ensure Soldiers, leaders, and Army civilians can perform critical tasks to prescribed standard.

6.1 Institutional Training Concept and Strategy

Training at the institution will include the LVCG-ITE, supported by a combination of embedded and stand-alone TADSS. Institutional training for the GCV system will depend on the density of systems fielded and the number of trained crewmen, maintainers, and leaders needed to sustain units equipped with the system.

- Branch schools affected by fielding of the GCV system will conduct initial military training (IMT) for affected MOSs and Area of Concentration (AOC) courses beginning NLT one year following First Unit Equipped (FUE) FY2018. RC Institutional training, when initiated, will be conducted like that for Active Component personnel. Appropriate courses, both officer and enlisted, will be modified or developed to include GCV characteristics, doctrine and tactics, GCV capabilities, operation of the GCV, survivability, maintenance and communications. This training will be based on input from contractor produced LMI data, contractor training, results from the GCV operational testing and SMEs.
- Leadership and Education. Centers and schools that provide professional military education (PME) for Soldiers and military leaders assigned to units employing the GCV will receive updates to doctrine and tactics, employment of the GCV at the system through company level, maintenance and sustainment requirements. Training will be accomplished through the modification of existing professional development materials and unit training programs. The GCV capability will be displayed and simulated with emerging simulations such as One Semi-Automated Force (One SAF), Warfighters' Simulation (WARSIM), Joint Land Component Constructive Training Capability (JLCCTC), and the Force Training Support System. Existing simulations will need to be upgraded in order to facilitate institutional and unit training of non-commissioned officers and commanders on system capabilities.
- MOS specific training in the institutional training base. The MD and the proponent Training Developer (TD) will develop new individual tasks, collective tasks, and training materials per TR 350-70, Army Learning Policies and Systems, based on Army Learning Model methods to support the GCV. The TD will provide advice to the MD on matters relating to the training development process, its products and standardization of those products. The TD will conduct product validation and assist affected schools with the institutionalization of the GCV platform and associated training materials. Tactics, Techniques, and Procedures (TTP) will be developed by the TD proponent doctrine developer and incorporated as part of NET.

- New Equipment Training. Changes to institutional programs will be identified through the contractor prepared LMI and the Analysis, Design, Development, Implementation, and Evaluation (ADDIE) process. Training Developers (TD) will attend I&KPT training delivered by the NETT. Training will be administered in such a manner that the I&KPT trained personnel are capable of training replacement personnel, maintaining the stability of the training base, and developing training materials to support institutional and unit training. TD personnel will also receive a Doctrine and Tactics Training (DTT) update, as required, to maintain systems employment expertise. This update will be provided by the proponent CoE. From this effort, draft changes to POIs and training materials will result in the validation/verification of the changes and pilot courses taught on actual production vehicles. This will take place in time to have the institutional training base established within one year of FUE (3Q FY21).

6.1.1 Product Lines

Input developed from the TSS estimate will be used for each applicable product line supporting the institutional training domain.

6.1.1.1 Training Information Infrastructure

GCV IFV training material will conform to Joint and Army architectures and standards to enable the development, storage, retrieval, delivery, and management of Training Support System (TSS) products and information for use by individuals, units, and institutions worldwide. TSS products will be planned, prepared, and developed IAW the following operational and technical Architectures as applicable: Global Information Grid (GIG), ATIA, Distributed Interactive Simulation (DIS) High Level Architecture (HLA) for current simulations, and Common Training Instrumentation Architecture (CTIA). GCV IFV will leverage web-based technology to interface with the training infrastructure via the Tactical Internet (TI), a subnet of the TI or other secure network. All training materials developed by the MATDEV will be developed in the TDC database. The MATDEV will be provided TDC as Government Furnished Software (GFS). All IMI and TADSS products will be SCORM compliant.

6.1.1.1.1 Hardware, Software, and Communications Systems

Development Capabilities include the use of the existing Scenario development tools and the Training Development Capabilities program. Commercial capabilities can provide access to training products being stored on Army Knowledge Online (AKO) and other various authorized Web based data locations.

6.1.1.1.2 Storage, Retrieval, and Delivery

Training products will be stored on the Central Army Repository (CAR), formerly the Reimer Digital Library (RDL), and within the Training Development Capabilities program. The Distributed Leaning (dL) repositories and the Army Learning Management Systems (ALMS) will house dL products for use within the institution, unit sustainment, self-development, and reach-back access for deployed units. The Center For Army Lessons Learned (CALL) Repository and the Mission Command Knowledge System (MCKS) will be leveraged for material applicable to GCV operations within the BCT in unified land operations.

6.1.1.1.3 Management Capabilities

Information and training management capabilities include: the Digital Training Management System (DTMS), the Army Learning Management System (ALMS), the Individual Training Resource Management (ITRM) System, and the Automated Instructional Management System-Personnel Computer (AIMS-PC). Training Management programs will be accessible through the Army Training Information Architecture (ATIA).

6.1.1.1.4 Other Enabling Capabilities

Interoperability and data exchange as required by the Training Support System (TSS) will exist with the Army Training Integrated Architecture (ATIA), the Common Training Instrumentation Architecture (CTIA), and the Live, Virtual, Constructive, Gaming - Integrated Training Environment (LVCG-ITE) to support the primary components of the TSS Training Information Infrastructure (TII).

6.1.1.2 Training Products

To support institutional training on the GCV, a full complement of TSPs will be required. These include training support items/products such as Lesson Plans, Student Handouts, POI, Training Aids, Operator and Maintenance TMs, Maintenance charts and literature), etc. Multimedia training support package TSPs that support the training at all levels (initial entry, professional development, and sustainment) will need to be developed for enlisted and officer courses. This training material will be integrated into existing courses or used as the basis for new skill development courses. This material will train both operators and maintainers of the GCV. All training materials will be initially developed by the contractor and be approved by the proponent school(s)/CoEs to ensure they meet the TRADOC standards and are consistent with proponent strategies for the AOC/MOS affected.

6.1.1.2.1 Courseware

- New courseware shall be provided in electronic format that is compliant with the latest version of the DOD SCORM. Multimedia products must be task based, with data entered into the Training Development Capability (TDC) database, to support sustainment training upon fielding of the GCV. Products are to be tagged at the task level of detail in compliance with the Advanced Distributed Learning initiative.
- A level three interactive web based and computer based training product will be developed by the material developer and available through the Advanced Distributive Learning (ADL) network.

6.1.1.2.2 Courses

Fielding the GCV IFV variant will affect the following Institutional Training Domain courses. Three new courses will be required to be develped to train GCV IFV crewman (driver/operator, loader/crewman, vehicle commander).

GCV Institutional Courses

Course Name	Course Number
Initial Military Training (IMT)	
Radio Operator Maintainer	201-25C10
Radio Operator Maintainer (Reserve Component)	113-25C10 (R)
Signal Support System Specialist	101-215U10
Signal Support System Specialist (Reserve Component)	113-25U10 (R)
Fire Control Repairer	113-91G10
Tracked Vehicle Mechanic	611-91H10
Track Vehicle Repairer (Reserve Component)	091-91H10 (R)
Armament Systems Maintenance Warrant Officer Basic	4E-913A
Infantry Basic Officer Leader - Branch	2-7-C20B

Armor Basic Officer Leader - Branch	2-17-C20B
Professional Military Education (PME)	
Maneuver Captain's Career Course	2-7/17-C22
Maneuver Captain's Career Course (Reserve Component)	2-7/17-C23
Maneuve Pre-Command Course	2G-F108
Infantryman Advanced Leader Course	010-11B30-C45
Infantryman Advanced Leader Course (Reserve Component)	071-11B30-C45
Armor Crewman Advanced Leader Course	020-19K30-C45
Armor Crewman Advanced Leader Course (Reserve Component)	171-19K30-C45
Cavalry Scout Advanced Leader Course	25019D30-C45
Cavalry Scout Advanced Leader Course (Reserve Component)	171-19D30-C45
Maneuver Senior Leader Course (Infantryman)	0-11/19-C46 (11B)
Maneuver Senior Leader Course (Indirect Fire Infantryman)	0-11/19-C46 (11C)
Maneuver Senior Leader Course (Armor Crewman)	0-11/19-C46 (19K)

Maneuver Senior Leader Course (Cavalry Scout)	0-11/19-C46 (19D)
Radio Operator Maintainer Advanced Leader Course	201-25C30-C45
Radio Operator Maintainer BNCOC	113-25C-C45
Signal Support System Specialist Advanced Leader Course	101--25U30-C45
Signal Support System Specialist BNCOC	113-25U30-C45
Tracked Vehicle Mechanic Advanced Leader Course	611-91H30-C45
Armament Repairer Advanced Leader Course	643-91F30-C45
Armament Repairer Advanced Leader Course	091-91F30-C45
Functional and ASI	
TBD - GCV IFV Crewman Course	TBD
TBD - GCV IFV Leader Course	TBD
TBD - GCV IFV Master Gunner Course	TBD
Mobilization	

- Reserve Component (RC) requirements for the GCV will be futher identified once the RC BOIP is established.

6.1.1.2.3 Training Publications

Manuals. Training will be supplemented with on line and/or hard copy use of Interactive Electronic Technical Manuals (IETM) and Digital Operators Guides (DOG) provided by the contractor, updated Soldiers Training Products (STP), Army Doctrine Publications (ADP), Army Tactics, Techniques, and Procedures (ATTP), and Field Manuals (FM), appropriate to the GCV IFV organization, provided by TRADOC Schools, and unit TACSOP developed by TOE organizations.

Training Publications

Publications	Publication Date
Army Doctrine Publications (ADP)	
ADP 3.0 Unified Land Operations.	10 October 2011
ADP 6.0 Mission Command (w/Chg 1)	10 September 2012
ADP 7.0 Training Units and Developing Leaders	23 August 2012
Army Tactics, Techniques, and Procedures (ATTP)	
ATTP 3-06.11 Combined Arms in Urban Operations	June 2011
ATTP 3-21-71 Mechanized Infantry Platoon and Squad (Bradley)	9 November 2010
	10 August

ATTP 3-90.4 Combined Arms Mobility Operations	2011

Field Manuals

FM 3.06 Urban Operations	26 October 2006
FM 3-20-21 HBCT Gunnery	Ch 1, 31 May 2010
FM 3-22.68 Crew-Served Machine Guns, 5.56mm and 7.62mm	Ch 1, 31 May 2010
FM 3-90 Tactics	4 July 2011
FM 3-90.1 Tank and Mechanized Infantry Company Teams	9 December 2002
FM 3-90.5 HBCT Combined Arms Battalion	Ch 1, 1 October 2009
FM 3-90.6 Brigade Combat Teams	14 September 2010
FM 7-15 The Army Universal Task List	27 February w/Ch 9, 9 December 2011
FM 7-21.13 The Soldier's Guide	Ch 1, 20 September 2011

Soldier Training Publications

STP 7-11B-SM-TG Soldier's Manual, SL1, MOS 11B, Infantry	6 August 2004

STP 7-11B24-SM-TG Soldier's Manual, SL2/3/4, MOS 11B Infantryman	6 August 2004
STP 9-45G12-SM-TG Soldier's Manual and Trainer's Guide, MOS 45G, Fire Control System Repairer	March 2001
STP 9-45K14-SM-TG Soldier's Manual and Trainer's Guide, MOS 45K, Tank Turret Repairer, Skill Levels 1-4	September 2001
STP 91H14-SM-TG Soldier's Manual and Trainer's Guide, MOS 91H/91X, Tracked Vehicle Mechanic, Skill Levels 1-4	March 2011
STP 9-91M14-SM-TG Soldier's Manual and Trainer's Guide, MOS 91M, M2/M3 Bradley Fighting Vehicle System Maintainer, Skill Level 1-4	May 2010
STP 11-25U14-SM-TG Soldier's Manual and Trainer's Guide, MOS 25U, Signal System Support Specialist	February 2010
STP 11-25C13-SM-TG Soldier's Manual and Trainer's Guide, MOS 25C, Radio Operator Maintainer, Skill Levels 1, 2, and 3.	16 February 2005
STP 21-24-SMCT Soldier's Manual of Common Tasks, Warrior Skill Levels 2/3/4	9 September 2008

Infantry Unit Task Lists and Collective Tasks

https:/www.warrioruniversity.army.mil/login.html

6.1.1.2.4 Training Support Package (TSP)

The GCV must be fielded with a full set of multi-purpose, individual and collective TSPs for use at the institution and in the self-development program. TSPs for individual training must provide training in the basic operation of the equipment (i.e. tutorials on basic functionality, operation, and maintenance of the equipment including peculiarities inherent in the embedded training system). TSPs for collective training must provide realistic vignettes in increasingly challenging enemy and environmental complexities (including adaptive enemy behaviors and complex urban environments) so units and staffs can practice, rehearse, and train under expected mission conditions. Each TSP must include the initialization files for distributed ET. Individual and crew-level TSPs will be developed for scenarios covering a representative set of GCV platoon missions.

- The Program Manager and proponent Maneuver Center of Excellence (MCoE) Director of Training and Doctrine will coordinate for development of Individual and Collective TSPs. The TSPs will be multi-media, structured programs presented on the operational system and on a computer based training systems. The TSPs will be designed to support effective training for operators, maintainers, and leaders performing unified land operations. For the individual, the package will have a self-tutor program to support orientation, operational capabilities, functionality, and detailed individual operator training in data entry, moving between menus and screens, and data retrieval. The program will critique operator progress through the training and provide remedial training as necessary. For collective training, the package must provide training programs tailored to specific mission and contingency scenarios to allow units and staffs to practice, rehearse, and train under expected mission conditions. The program will critique all aspects of the collective exercise and provide remedial training as required. All new courseware shall be provided in electronic format that is compliant with the latest version of the DoD Sharable Content Object Reference Model (SCORM).
- TSPs include but are not limited to the following:
    - New Equipment Training Test Support Package
    - Operator New Equipment Training Support Package
    - Field Level Maintenance New Equipment Training Support Package

6.1.1.3 TADSS

- TADSS used for GCV training in the Institutional Training Domain will leverage already developed systems and technology to the greatest extent, with the intent of maximizing standardized training and systems commonality for potential cost savings.
- The Material Developer (MD) must provide stand-alone TADSS for those tasks not supported by the ET capability or those required by the institution in lieu of actual GCVs. TADSS will be reconfigurable and reusable as well as interoperable with the entire GCV system in addition to interfacing with current and future ranges, CTC instrumentation, targetry and tactical engagement simulation systems. All will be high level architecture (HLA) compliant.
- ET for individual and crew - level tasks is the preferred solution for meeting all of the GCV training needs. However, some tasks not suitable for ET, must be trained using standalone aids or devices (e.g., maintenance desktop as possibly a Part Task Trainer (PTT)). The degree of fidelity of these TADSS will be determined by a detailed training task analysis, to be accomplished by the GCV vehicle manufacturer, which will be reviewed and approved by the various TRADOC organizations (MCoE for operator training, SCoE for maintainer training). The numbers of simulators and their distribution to potential users will be defined as the institutional training strategy matures in system development and demonstration (SDD).

Training Aids, Devices, Simulations, and Simulators (TADSS)

Requirements for the

Ground Combat Vehicle			
Purpose/Function	NET	Institution	Unit (Operational)
Driver Trainer - Full Motion Trainer		X	X
Close Combat Tactical Trainer		X	X
Gunnery Trainer (Crew Served Weapons)		X	X
E-TESS	X	X	X
Embedded Training	X	X	X
Part Task Trainers (PTT)		X	
Maintenance Trainers		X	
- Desktop Trainer		X	
- Hands-on Trainer (HOT)		X	

Dummy/Cut-away Training Rounds	X	X	X
Sub Caliber In-Bore Device (line of sight main gun)		X	X

6.1.1.3.1 Training Aids

Training aids for the GCV consist of, but are not limited to:

- Dummy, cutaway, and mock-up rounds for each of the respective GCV weapons systems.
- VISMODS
- GTAs
- Models
- Displays

6.1.1.3.2 Training Devices

- Sub caliber in-bore device. This device simulates main gun firing using sub caliber ammunition. It augments training fidelity from individual through collective training, providing instant feedback to the crew/platoon. It may be used on live fire ranges for gunnery tables to conserve main gun ammunition and to use for remedial training of GCV crews
- Dummy/cut-away/training rounds. These training aids are needed to support GCV upload and familiarization training, and auto loader functioning by the crew during PMCS or by routine or unscheduled maintenance services to confirm system functionality. There is a need for a platoon set of each type of dummy round that the GCV fires. Training rounds are needed to simulate the ballistics of service rounds out to specific distances that coincide with gunnery range constraints.

6.1.1.3.3 Simulators

Full mission GCV operator/maintainer simulators shall be provided to support operator, maintainer, and leader training at the institution. These simulators will be a realistic replication of the GCV to include interior configurations, line of sight, and size requirements. The simulators shall include realistic interactive equipment and simulation features that replicate all of the essential functions of an actual GCV including electrical and electronic control systems and BIT/BITE messages. The GCV simulators shall be a state of the art blend of real and facsimile equipment that provides for realistic training of all functions and tasks required on a GCV. Simulators to be considered for development by the MD include:

- Driver Trainer (Common Driver Trainer - GCV Variant). The device may consist of driver trainer station, instructor/operator station (IOS), a visual system, an aural/audio system, a computer system, and a fully integrated motion system. A real-time color computer image generation (CIG) subsystem provides visual scenes to the driver through the periscope or on monitor screens for out-of-hatch training. The instructor, via the instructor/operator station, is capable of selecting a visual scene, viewing the visual scene, monitoring each Soldier's performance, and introducing malfunctions and emergency control situations. The trainer will have multiple training databases; it will simulate all driving conditions on various types of terrain, to include, but not limited to desert, woodland, urban, mountainous, and snow/ice covered.
- The Crew Served Weapons Trainer. This device provides individual crew precision and degraded mode gunnery training for the GCV commanders and gunners. The trainer will accommodate training in the several types of GCV Crew Served Weapons that may be selected for employment. Training is accomplished by means of four functional subsystems: Computational, Instructional, Visual and Crew station. The Crew Station subsystem provides the crew with simulated vehicle components of the actual crew stations, which provide proper stimulus of, and response to, crew actions in a manner approximating the associated operational system. The Visual subsystem simulates tactical scenes consisting of a variety of terrain and man-made cultural features and a number of potential target types so that the crew members can be trained in target detection, classification, and gunnery under combat conditions. The Instructional subsystem provides training exercises in which crew(s) interacts with each other and the trainer, in response to visual and aural cues, while performing a

variety of special-purpose task training and tactical firing exercises. The IOS is an element of the instructional subsystem and provides for the selection and assignment of desired exercises from a list of multi-problem exercises correlated to crew capabilities. The evaluation of crew performance is provided in the form of IOS displays and computer printouts. A training management program provides data necessary to assess crew readiness, direct crew training, and judge crew gunnery proficiency.

- Maintenance Trainer. These will train personnel in the location, operation, fault diagnosis, troubleshooting, and repairing of Line Replaceable Units (LRUs). Maintenance training information networks will be automatically linked to the GCV Interactive Electronic Technical Manuals (IETM). The automated linkage must include an automated interface between the GCV IETMs and the training development process. The Student Station is the component of the D/Diagnostic/Troubleshooting (D/T) and DLS Direct Logistic Support (DLS) maintenance training system where the student troubleshoots simulated faults using trainer controls and indicators and prescribed troubleshooting procedures. The instructor controls the assignment of tasks and monitors the operation of the Student Stations. The Diagnostic/Troubleshooting (D/T) and Direct Logistic Support (DLS) trainers support multiple students at several networked Student Stations. Virtual reality is used to enhance training realism. Students can interact with the virtual GCV model that is fully operational or displays a simulated fault. The D/T trainer runs preprogrammed Lessons under the control of the Instructor or automatic training management functions. Once a lesson is initiated, the D/T courseware presents maintenance situations and problems that contain one or more faults. Students will locate the appropriate troubleshooting procedure in the IETM and will interact with both 2D and 3D screens at the Student Station. Depending on the training intent and the sequence of the lesson, students will perform any number of eligible actions. The student may select, manipulate, connect, and disconnect components and cables in the virtual environment as necessary to perform maintenance procedures. Brake System/Power Pack PTT: Brake System and Power Pack PTT(s) may be required for training small groups on specific aspects of a vehicle. The schoolhouse will use the PTT devices to train, troubleshooting, and basic remove and replace tasks. The PTT devices can also be used in the verification of repair. The PTT devices will provide all the functionality of the given portion of the GCV isolated from the total system, and allow instructor induced failure to train specific tasks.

- Close Combat Tactical Trainer (CCTT) will incorporate the Ground Combat Vehicle functionality into the existing CCTT System to allow crew and collective unit training, just as the current CCTT system does for the Abrams, Bradley, Stryker, and other select crew manned combat systems. Interface between systems is the key training factor for the accomplishment of section, squad, platoon, and company interactive tactics training with the combat systems.

6.1.1.3.4 Simulations

- Embedded Training. ET will leverage three major capabilities: Integrated Training Environment (ITE), Interactive Multimedia Instruction (IMI), and training management.
    - The first capability leveraged is an Integrated Training Environments (ITE) supported by Live Virtual Constructive-Integrating Architecture (LVC-IA) for interoperability among training enablers.
    - The second capability is display of IMI. The ET system will be able to display SCORM compliant IMI training products. Soldiers will be able to use their operational systems to take courses in MOS qualification of professional development.
    - The third capability is Training Management . Training management will record training results and certification, and provide course and curriculum information and course materials, using "Reach" if necessary, to draw the material from institutional or home station (HS) resource compliant with Army knowledge enterprise (AKE) and the Central Army Registry (CAR) (formerly the Reimer Digital Library).
- Embedded Tactical Engagement Simulation System (E-TESS). E-TESS capability replicates friendly and enemy weapons effects. E-TESS capability provides the means to replicate the Operational Environment (OE). E-TESS provides simulation/stimulation of other effects, for example NLOS, NBC, Electronic Warfare (EW), Identification Friend or Foe (IFF). E-TESS provides realistic simulation of the tactical environment during force-on-force (FOF) and force-on-target (FOT) tactical training exercises. It will generate, send, and receive engagement data that conforms to the Army Combat Training Instrumentation Architecture (CTIA) and Joint Instrumentation Systems. It will also replicate smoke, flash, and bang when the GCV main gun is fired. Engagement data collection facilitates the development of AARs, which enhances individual and collective experiential learning and sustaining higher levels of task proficiency. E-TESS will be compatible and interoperable with One-Tactical Engagement Simulation System (OneTESS); home station, maneuver Combat Training Center-Instrumentation Systems (CTC-IS); deployed training Instrumentation Systems; Common Training Instrumentation Architecture (CTIA); Joint Engagement Simulation Systems (ESS); and backwards compatible with Multiple Integrated Laser Engagement System (MILES) via a HLA construct. E-TESS will reduce the time required for live tactical engagement training.
- The Constructive environment (WARSIM, ONESaf, JLCCTC ERF and MRF) in

the LVCG-IE will have to be programmed to realistically replicate the operational and weapons effects of the GCV during simulation wargaming exercises and operations. Sustainment operations algorithms and matrixes will have to accurately replicate the GCV logistical requirements and associated operations in concert with the other replicated warfighter systems.

- Modeling information specific to the GCV (content and functionality) will be provided to PEO STRI (PM-ACTT) and TCM Gaming so that the GCV can be included in appropriate gaming applications.
- Collective Training. Live-Virtual-Constructive-Gaming (L-V-C-G) training capability must include a robust capability to support the ability to train any time, any where. The GCV must be interoperable with the Army's current live Tactical Engagement Simulation (TES) systems [i.e., Instrumentable-Multiple Integrate Laser Engagement Simulation System (I-MILES) and interoperable with the Army's future TES [Army-TESS (A-TESS)], compliant with the Common Training Instrumentation Architecture (CTIA), and be interoperable the current Instrumentation Systems [i.e., Home station Instrumentation Training System (HITS), and Combat Training Center-Instrumentation System (CTC-IS)]. The Training capability must be compatible with LVCG-IA training enablers within the integrated training environment.

6.1.1.3.5 Instrumentation

- GCV will be compatable and interoperable with OneTESS; Home station, HITS, CTC-IS; and backwards compatable with Thru-Sight Video (TSV) and Precision Gunnery Systems (PGS), as well as the Multiple Integrated Laser Engagement System (MILES). GCV will be compatable and interoperable with Home station, HITS, CTC-IS, and future Army Tatical Engagement Simulation System (A-TESS); and backwards compatable with Thru-Sight Video (TSV) and Precision Gunnery Systems (PGS), as well as the Multiple Integrated Laser Engagement System (MILES).
- The embedded tactical engagement simulation system (TESS) will detect, transmit, and decode MILES lasers. Appended capability requirements include a weapons effect signature simulator (WESS), kill indicator, and radios for CTC instrumentation.

6.1.1.4 Training Facilities and Land

Changes to training facilities will be driven by changes to the L, V, C, and G integrated training environment. Integrated training enablers (to be identified) will provide digital linkage between platforms employing ET and mission command systems (JBC-P) to facilitate reach-back and platform based virtual exercises (wireless, platoon to CAB). Concepts such as the wired motor pool, though not longer in vogue, must be explored to provide a home station virtual training capability and reduce or eliminate the need for stand alone training devices (COFT, CCTT) . The goal, to train any time, any where, must be supported by an on-board or external power source and wireless communication.

6.1.1.4.1 Ranges

Ranges and training areas required to support fielding of the GCV include but are not limited to the following:

- 17859, Digital Multipurpose Training Range (DMPTR)
- 17860, Digital Multipurpose Range Complex (DMPRC)
- 17863, Tank/Fighting Vehicle Stationary Gunnery Range
- 17864, Multipurpose Training Range (MPTR)
- 17866, Tank/Fighting Vehicle Platoon Battle Run (Table XI, XII)
- 17955, Tracked Vehicle Drivers Course

6.1.1.4.2 Maneuver Training Areas (MTA)

There are no major impacts to maneuver training areas identified at this time. MTA's to support institutional training include the following:

- 17720, Maneuver/Training Area, Heavy Forces.

6.1.1.4.3 Classrooms

- Classrooms will continue to be key resources in implementing the Army training strategy, including support to BCT training at both the institution and at GCV home stations (HS).
- Classrooms required to support operator, maintainer and leader training include traditional classrooms, classroom XXI, digital training facilities, and maintenance classrooms. They include but are not limited to:

- 17120, General Instructional Building

- 17132, General Item Repair Instructional Building

- 17133, Vehicle Maintenance Instructional Building

- 17211, Simulator Building (CCTT)

6.1.1.4.4 CTCs

Institutional training requirements do not include the use of CTCs.

6.1.1.4.5 Logistics Support Areas

Logistics Support Areas will be required at the installation level in-order-to receive, prepare, and issue GCVs along with its slice of logistics (repair parts, OVM, POL) and tools to the supporting agency.

6.1.1.4.6 Mission Command Training Centers (MCTC)

The MCTC at the Maneuver Center of Excellence and gaining units will be leveraged to conduct individual and collective training of the GCV mission command system (Joint Battle Command - Platform of beyond).

6.1.1.5 Training Services

The institutional training domain requires the following management, acquisition, and general support services in order to implement the training concept and system training strategy.

6.1.1.5.1 Management Support Services

- Information management services.
    - Army Distributed Learning (ADL)
- Courseware management services.
    - Army Training Network (ATN) University of Mounted Warfare
    - ACCP management
    - TATS-C management
    - Multimedia courseware management
    - Distance learning (dL) management
- Requirements management services.
    - Training ammunition requirements as detailed by STRAC
    - TADSS requirements documentation
    - Range modernization and standardization requirements
- Devices management services
    - Fielded devices inventory/sustainment and management
        - Logistics Support Concept: Operator maintenance for the TADSS shall be performed by assigned instructors/operators (I/O). All other maintenance will be performed by the contractor under a contract logistics support (CLS) contract for the entire TADSS life cycle. The material developer in coordination with the Program Executive Office for Simulation, Training, and Instrumentation (PEO STRI) will be responsible for planning, programming, budgeting, and executing CLS support IAW AR 700-17. CLS contracts will require that repair parts peculiar to the TADSS be acquired by their contractor prior to delivery. Provisioning of parts for TADSS will be performed by the contractor. Technical data and publications will be required for all TADSS-particular items, and operator manuals will be prepared IAW MIL-M-7298.
        - Configuration management and upgrades/modifications of the TADSS, including hardware/software, will be the responsibility of the material developer for the life cycle of the TADSS system. TADSS changes will be incorporated concurrently with changes to the actual system, to ensure that the TADSS simulates the correct function in response to the performance of selected tasks. A New Equipment Training (NET) program will be developed by the contractor for each TADSS as a Train-the-Trainer or Train the I/O course of instruction. The CLS package must be available for testing prior to initial operational capability (IOC).
    - Material Army wide Tracking System (MATS)

    - Tactical Engagement Simulation (TES) management
    - Targetry support program
    - Instrumentation
- Communicative technologies management
    - Department of the Army Multimedia/visual Information Production and Distribution Program (DAMPIPDP) management
    - Electronic Multimedia Information Capability (EMIC) management
    - Visual information /Training Support Center VI/TSC management

6.1.1.5.2 Acquisition Support Services

Acquisition support services will be required for dL XXI contract management services

6.1.1.5.3 General Support Services

General Support services are required for:

- Distribution and replication services
- Video production services
- TADSS development, procurement, distribution, and sustainment

6.1.2 Architectures and Standards Component

6.1.2.1 Operational View (OV)

- The Institutional Architecture begins with the New Equipment Training Test Support Package (NETTSP) developed by the Program Manager. The NETSP contains instruction on performing operator and maintainer tasks on the new item, as well as any TTP developed by the institution's Combat Developer/Training Developer, associated with the employment of the new item. The NETTSP is handed off to the institution(s), where the Directorate of Training and Doctrine (DOTD), in the case of Maneuver Center of Excellence (MCoE) provides the package to their Training Development Division for refinement and development of the training support system used in the institution.
- Training Development Division, DOTD will use the NETTSP to revise existing POIs and training materials for the Infantry School. Soldier Training Products will be developed, given to Course Development Branch, the Distributed Learning element for media formatting, and then made available for Self-Development training. Collective Training products will be developed or updated, incorporating TTP, and revising any CATS.
- The Doctrine Division will incorporate the developed TTP in the updates to proponent BCT doctrinal manuals.
- Institutional training on the GCV will begin within 12 months of FUE

6.1.2.2 Systems View (SV)

Within the LVC&G architecture, GCV will interact as a live entity, conducting maneuver and live fire digital gunnery, with virtual, constructive, and gaming TADSS in a seamless, synthetic environment. The goal is to produce a multi-grade, multi-echelon training event that maximize leadership opportunities and increases the frequency of each Soldier's experience in all types of training.

6.1.2.3 Technical View (TV)

All web based training products will be SCORM compliant. All simulations and simulators will be HLA compliant. Standard accurate data and models of the JBC-P will be developed for use in current and future virtual and constructive simulators/simulations (e.g., the Warfighter's Simulation). TSS products will be planned, prepared, and developed IAW the following operational and technical architectures as applicable: GIG, ATIA, and CTIA. The JTRS will leverage web technology to interface with the training infrastructure via the Tactical Internet (TI), a subnet of the TI, or other secure network. All training material developed by the MATDEV will utilize the TDC database provided as Government Furnished Software.

6.1.3 Management, Evaluation, and Resource (MER) Processes Component

MER process components, both internal and external drivers, guide the development, maintenance, and sustainment of the TSS and are described below.

6.1.3.1 Management

The staff training estimate in support of GCV will focus on the most efficient use of existing resources and precisely identify and quantify any expected shortfalls. Training development will focus on producing products that are capable of being used both in the institution and in the operational training domain and focused only on combat critical tasks. Training will incorporate the maximum use of simulations to mitigate cost and risk. Students and instructors will be routinely asked to evaluate training events and products to determine how best to improve the quality and efficiency of instruction and training events to provide the best quality training with the least expenditure of resources

6.1.3.1.1 Strategic Planning

The development and fielding of the GCV supports Army Transformation, Army Modernization, Brigade Combat Team Modernization, and Training Transformation, and is consistent with the guidance found in:

- National Defense Strategy
- Joint Vision 2020
- The Army Plan and other Service Plans
- Future Force documentation
- TRADOC supporting plan to the Army Transformation Campaign Plan (ATCP)
- TSS Strategic Plan (when published)
- TSS Program Strategy Formulation (guidance to be published)

6.1.3.1.2 Concept Development and Experimentation (CD&E)

The need for a Ground Combat Vehicle emerged following the demise of the Future Combat System (FCS). Guidance issued by the OSD identified crew survivability and leveraging technology developed for the FCS as the main design issues. Additionally, GCV was and is to be the first platform designed with an embedded training capability.

6.1.3.1.3 Research and Studies

Not Applicable

6.1.3.1.4 Policy and Guidance

The documents listed below apply to the design, procurement, and use of the GCV system:

- AR 350-1 and AR 350-38
- AR 525-29, Army Force Generation
- TRADOC Regulations 350-70 and 71-20
- TRADOC Pamphlet 71-20
- Command Training Guidance
- Army Training Doctrine Manuals (ADP 7-0, ADRP 7-0)
- LOGSA Pamphlet 700-3, Total Package Fielding
- TP 525-8-2 w/ Ch 1 6 Jun 2011, The Army Learning Concept [Army Learning Model] 2015

6.1.3.1.5 Requirements Generation

This STRAP supports the CDD to which it is attached.

6.1.3.1.6 Synchronization

The fielding of the GCV will be synchronized with the following as applicable:

- Unit Set Fielding
- Army Transformation Campaign Plan (ATCP)
- Implementation Plan for Transforming DoD Training
- TADSS distribution plans
- TP 525-8-2 w/ Ch 1 6 Jun 2011, the Army Learning Concept [Army Learning Model] 2015
- Joint Knowledge Development and Distribution Capability (JKDDC)
- Joint Assessment and Enabling Capability (JAEC)
- Joint National Training Capability (JNTC)
- Joint Advanced Distributed Learning C0-Labs
- Joint Professional Military Education (JPME)

6.1.3.1.7 Joint Training Support

Not Applicable

6.1.3.2 Evaluation

Unresourced. TRADOC policy no longer resources Post Fielding Evaluation Teams from proponent schools. However, given sufficient funding, a post-fielding training evaluation will be conducted to ensure GCV trained Soldiers meet operational requirements. An evaluation team may observe unit operations and sustainment training and conduct interviews, surveys, and complete questionnaires to determine if the proponent is meeting the training needs of the force. If funding is not available, other methods such as mail-out questionnaires/surveys, TNET, and/or telephonic interviews will be used to gather needed data. The results of these visits or surveys will be provided to the appropriate training development organization and will serve as a basis for updating and revising institutional, unit, and individual training strategies, programs, instructional materials, and products. All training follow-up evaluations must be directed and supported by the Commanding General/Deputy Commanding General of each proponent school or CoE.

6.1.3.2.1 Quality Assurance (QA)

QA plans will be used IAW each installation's QA plan. Each QA Office (QAO) will use proven techniques to determine the quality of training provided by the institution. External evaluations will focus on the use of tasks trained, the proper application of those tasks, and identification of tasks not trained but needed. Internal evaluations will focus on the presentation of the tasks at the institution, the course content, and the presentation of material by the instructor. QAO will be responsible for conducting any Post Fielding Training Effectiveness Analysis (PFTEA). Observations will be reported to respective DOT for corrective actions.

6.1.3.2.2 Assessments

- As part of the evaluation phase of the SAT process, Post Fielding Training Effectiveness Analysis (PFTEA) will be conducted. The purpose of this PFTEA will be to determine how effectively and efficiently GCV is meeting user training requirements. The findings will be used to provide lessons learned information on the training development effort associated with future weapon systems and/or product improvement.
- Other assessment tools will be used to include:
    - Training evaluation and analyses
    - Monthly status reports

6.1.3.2.3 Customer Feedback

The following tools will be used:

- Electronic media for surveys, help desks, collaboration
- Interviews
- Questionnaires

6.1.3.2.4 Lessons Learned/After-Action Reviews (AARs)

Each proponent center of excellence or school will leverage the lessons learned database maintained by the Center for Army Leadership (CAL) as well as conducting face to face interviews with units/individuals returning from theater to ensure training programs and instruction remain current and relevant.

6.1.3.3 Resource

Resources to support the Institutional Training Domain is provided by the PM-GCV and will include the initial issue of tactical systems to support the Institutional Training environment and any system specific training Aids, Devices, Simulations, Simulators, and Instrumentation as identified in the validated requirements document.
NOTE: Dollar amount represent "then" year dollars

Item Resourced	Prior Year	FY19 Yrs or $K	FY20 Yrs or $K	FY21 Yrs or $K	FY22 Yrs or $K	FY23 Yrs or $K	FY24 Yrs or $K
Manpower - TNG DEV							
Contractor		1.0MY	1.0MY	1.0MY	1.0MY	1.0MY	1.0MY
Contract Support	0.31MY	1.0MY	3.0MY	3.0MY	3.0MY	1.0MY	1.0MY
Enlisted		0.4MY	0.4MY	0.4MY	0.4MY	0.4MY	0.4MY
Warrant Officer		0.2MY	0.2MY	0.3MY	0.3MY	0.3MY	0.2MY
Officer		0.1MY	0.2MY	0.3MY	0.3MY	0.3MY	0.2MY
Contract Support		200	200	200	200	200	200
Civilian Pay		300	300	300	300	300	300
Travel / Per Diem		30	40	40	45	50	50
Other		TBD	TBD	TBD	TBD	TBD	TBD

Rational: Training Developers are required to develop and maintain an

Individual Training Plan (ITP) for each MOS and AOC, develop Course Administrative Data (CAD) and Programs of Instruction (POI) for Instittional training, and verify individual task analysis as outputs of the ADDIE process. Military will be used in different capacities within the training development process. Travel and Per Diem represents the cost to attend IPRs, training and TM verification events, Logistics Demonstrations, Instructor and Key Personnel Training, OPNET, FLMNET, and Leader training, training observation prior to testing and attendance at Limited User and Initial Operational Test events.

Item Resourced	Prior Year	FY19 Yrs or $K	FY20 Yrs or $K	FY21 Yrs or $K	FY22 Yrs or $K	FY23 Yrs or $K	FY24 Yrs or $K
New Equipment Training		19.00	30.56	35.19	35.79	32.14	32.69
Contractor		TBD	TBD	TBD	TBD	TBD	TBD
Contract Support		TBD	TBD	TBD	TBD	TBD	TBD
Travel / Per Diem		TBD	TBD	TBD	TBD	TBD	TBD
Classrooms		TBD	TBD	TBD	TBD	TBD	TBD
Equipment		TBD	TBD	TBD	TBD	TBD	TBD
AC / DC Power		TBD	TBD	TBD	TBD	TBD	TBD
Printing		TBD	TBD	TBD	TBD	TBD	TBD
Other		TBD	TBD	TBD	TBD	TBD	TBD

Rational: Funda or NET become available in FY19.

NOTE : Dollar amount represent "then" year dollars

	FY18	FY19	FY20	FY21	FY22	FY23	FY24

Item Resourced	Yrs or $K	Yrs or $K	Yrs or $K	Yrs or $K	Yrs or $K	Yrs or $K	Yrs or $K
Training Products							
Training Publications		1.0MY	2.0MY	4.0MY	3.0MY	3.0MY	2.0MY
Training Support Packages		1.0MY	1.5MY	2.0MY	1.5MY	0.5MY	0.2MY
Interactive Media Instruction		2.0MY	3.0MY	3.0MY	2.0MY	2.0MY	1.0MY
Electronic Technical Manuals		400	400	400	400	400	400
Soldier Training Publication		200	200	200	200	200	200
Interactive Electronic Technical Manuals		40	40	40	40	40	40
Combined Arms Training Strategy		0.1MY	0.2MY	0.2MY	0.2MY	0.2MY	0.2MY
Printing		0.2	0.3	0.4	0.4	0.3	0.2
Distribution		0.1	0.2	0.2	0.2	0.2	0.1
Other							

Rational: Includes the cost to develop, revise, maintain, and distribute Training Products. Products include New Equipment Training Test Support Package (NETTSP), Institutional, Operational, and Self-Development training products.

		FY18	FY19	FY20	FY21	FY22	FY23

Item Resourced	Prior Year	Yrs or $M	Yrs or $M	Yrs or $M	Yrs or $M	Yrs or $M	Yrs or $M
Training Aids, Devices, Simulators & Simulations		52.55	67.43	61.50	58.65	28.21	42.43
Training Aids		TBD	TBD	TBD	TBD	TBD	TBD
Devices		TBD	TBD	TBD	TBD	TBD	TBD
Simulators		TBD	TBD	TBD	TBD	TBD	TBD
Simulations		TBD	TBD	TBD	TBD	TBD	TBD
Graphic Training Aids		TBD	TBD	TBD	TBD	TBD	TBD
Software		TBD	TBD	TBD	TBD	TBD	TBD
Training Equipment*		TBD	TBD	TBD	TBD	TBD	TBD
Equipment		TBD	TBD	TBD	TBD	TBD	TBD
Printing		TBD	TBD	TBD	TBD	TBD	TBD
Shipment		TBD	TBD	TBD	TBD	TBD	TBD
Sustainment		TBD	TBD	TBD	TBD	TBD	TBD
Embedded Training		TBD	TBD	TBD	TBD	TBD	TBD
Other							

Rationale: Includes the cost to develop and maintain a gunnery trainer, driver trainer, hands-on maintenance trainer, and battalion sets for the close combat tactical trainer, simulator for institutional training. Also includes the cost to procure and maintain actual systems for training use. The institutional training base will require the use of 40 operational systems (crewman course, leader course, master gunner course, 91M Maintainer Course.

* Actual items of equipment used for training that do not lose their identity as an end item for operational purposes.

- Gunnery Trainer: Requirement – Active Army: 40, ARNG: 24. BOI: 1-per

ABCT, 1-per CAB. Institution: 12, Other: 4.
- Driver Trainer: Institution – 12, ARNG: 14 (BOI: 2-per ABCT)
- GCV CCTT sets: CONUS – 7 CAB sets (1-Combined Arms Battalion (CAB) set per Ft. Hood, Ft. Carson, Ft. Bliss, Ft. Riley, Ft. Stewart, Ft. Benning (6 sets)) (Ft. Benning includes the MCoE), 1-CAB set in Korea. ARNG: 7 – CCTT Mobile platoon sets. USAREUR: 1-platoon set.
- Hands-on Trainer: 10 at Ft. Benning, MCoE.

NOTE : Total Cost estimated for the development and production of TADSS and Training Support Products through 2029 = 585.11M. (Procurement costs include cost of any S/W licenses)

NOTE : Total OMA dollars allocated to TADSS Upgrade, Refurb and Maintenance through 2049 = 939.03M

NOTE : Dollar amount represent "then" year dollars

Item Resourced	Prior Year	FY18 Yrs or $K	FY19 Yrs or $K	FY20 Yrs or $K	FY21 Yrs or $K	FY22 Yrs or $K	FY23 Yrs or $K
Facilities / Land		14.34M	29.17M	29.67M	30.7M	30.69M	31.21M
Facilities		TBD	TBD	TBD	TBD	TBD	TBD
Land		TBD	TBD	TBD	TBD	TBD	TBD
Site Surveys		TBD	TBD	TBD	TBD	TBD	TBD
Concrete Pad		TBD	TBD	TBD	TBD	TBD	TBD
AC/DC Power		TBD	TBD	TBD	TBD	TBD	TBD
Equipment		TBD	TBD	TBD	TBD	TBD	TBD
Maintenance		TBD	TBD	TBD	TBD	TBD	TBD
Motor Pools		1.22	2.49	2.53	2.57	2.62	2.66
Other							

Rational: Facilities, land, and ranges needed to train and maintain the GCV currently exist. Modifications to facilities and land will not be known until a platform and armament are selected.

NOTE :Total MILCON Direct funding allocated for new facilities, range modification, and motor pools through 2030-414.04M.
NOTE : Dollar amount represent "then" year dollars

Item Resourced	Prior Year	FY18 Yrs or $K	FY19 yrs or $K	FY21 Yrs or $K	FY21 Yrs or $K	FY22 Yrs or $K	FY23 Yrs or $K
Training Services / TII							
Learning Management System		TBD	TBD	TBD	TBD	TBD	TBD
Services		TBD	TBD	TBD	TBD	TBD	TBD
Servers		TBD	TBD	TBD	TBD	TBD	TBD
Licenses		TBD	TBD	TBD	TBD	TBD	TBD
Information Technology Support		TBD	TBD	TBD	TBD	TBD	TBD
Other							

Rational: Software license and IT support will be required.
NOTE: Additional funds for software development, maintenance, licenses, and imbedded training priducts are covered in Program RDT&E funds for total System Development.

Item Resourced	Prior Year	FY19 Yrs or $K	FY20 Yrs or $K	FY21 Yrs or $K	FY22 Yrs or $K	FY23 Yrs or $K	FY 24 Yrs or $K
Evaluation / Quality Assurance							
Contractor		1.0MY	1.0MY	1.0MY	1.0MY	1.0MY	1.0MY

Civilian		1.0MY	1.0MY	1.0MY	1.0MY	1.0MY	1.0MY
Enlisted			0.3MY	0.3MY	0.3MY	0.3MY	0.3MY
Warrant Officer			0.2MY	0.2MY	0.3MY	0.3MY	0.2MY
Officer			0.2MY	0.2MY	0.3MY	0.3MY	0.2MY
Contract Support		200	200	200	200	200	200
Civilian Pay		200	200	200	200	200	200
Travel / Per Diem		40	40	50	50	45	40
Facilities		100	100	100	100	100	100
Equipment		200	200	200	200	200	200
Printing		0.1	0.1	02	0.2	0.2	0.1
Training Effectiveness Analysis		100	100	100	100	100	100
Post Fielding Training Effectiveness Analysis				200	200	200	200
Other							

Rational: Quality Assurance (QA) Evaluation is required to insure that training and training programs fieled meet the needs of the user community and the respective Commanders and responsible training planners.

7.0 Operational Training Domain

The Operational Training Domain is the training activities organizations undertake while at home station, at maneuver combat training centers (CTC's), during joint exercises, at mobilization centers, and while operationally deployed. This domain equates to assignments in the operational Army and the generating force (ARFORGEN). The focus of training in this domain is to provided combat ready Individuals, crews, and units to the Joint Force Commander; the development of lethal brigade combat teams and versatile, agile, and knowledgeable mission command battle staffs.

7.1 Operational Training Concept and Strategy

The sustainment of individual, crew and unit skills (collective training) will use the live, virtual, constructive, and gaming integrated training environment. Unit training to sustain individual and collective task/skill proficiency will be based on optimizing the use of the embedded training capability, with-in the GCV. Embedded Training (ET) capabilities within the GCV will be achieved using an incremental approach.

- Initial training at the site of the receiving unit is conducted by the NETT established by the PM-GCV. Upon completion of NET, the NETT will provide a unit Training Support Package (TSP) for the GCV in order for the unit to conduct sustainment training. The unit commander is responsible for providing the training guidance, time, and resources for individuals to maintain a level of proficiency required by the appropriate Common Task and/or branch MOS Soldier Training Products (STP). Continued sustainment training on the vehicle and components of the GCV is a critical aspect of maintaining operator proficiency. If vehicle operators and maintainers cannot use and maintain the GCV, then the benefit to wartime capability cannot be realized.
- Individual skills will be sustained during daily garrison operations, crew drills, and field training exercises. Available embedded training, multi-media training, and distributive learning will be used as a mainstay of unit
  sustainment training. Unit training will also be based on the Combined Arms Training Strategy (CATS) and the standards in training commission (STRAC) strategies for ammunition. Live training will be conducted at home station local training areas and the combat training centers (CTCs). Gunnery will include live fire exercises, crew and platoon qualification that will be conducted on digital ranges IAW FM 3-20.21, ABCT Gunnery. Tactics training will include the use of instrumented training and embedded tactical engagement simulation systems during force-on-force training that provides realism and an After Action Review (AAR) capability.
- Unit commanders are expected to enforce existing crew stability policies, procedures, and for the training of their GCV crew members and maintenance personnel. Tasks associated with operating, maintaining, and employing GCV components will be taught in the unit by qualified Soldiers who have been selected by the commander to receive training on the system from the NET. Sustainment training will use a mixture of ITE to maintain crew proficiency to standards. The unit commder's selected key operators and master trainers of the GCV should be trained by either NET or institutional

training (IMT and PME) in order to allow the unit to concentrate on sustainment training. Available embedded training, multi-media training, IMI and distance learning will be used as a mainstay of unit sustainment training.

- Collective skills necessary to employ the system are trained and sustained during unit training. Command Field Exercises (CFX), Command Post Exercises (CPX), Field Training Exercises (FTX), Fire Coordination Exercises (FCX), Situational Training Exercises (STX) and other exercises defined in ADP 7-0, provide practice and team building opportunities. Collective task training will be supported by embedded training and evaluated using the action, conditions and standards identified in the appropriate Mission Training Plan (MTP). Collective training FoF/FoT training exercises at Home Station, maneuver CTCs, and deployed training sites will faciliteted by the embedded TESS. GCV specific TTP, developed by the Maneuver Center of Excellence and unit SOP will be practiced and rehearsed using available Live, Virtual, constructive, and gaming capabilities. Leaders at all levels are responsible to ensure that time and resources are made available to maintain unit proficiency.
- Training on the GCV will be incorporated into the unit's annual training calendar. The Combined Arms Training Strategy (CATS) for GCVs will include training events and resource allocations for platoon, company/troop, battalion/squadron and brigade/regimental levels.
- Interactive Multimedia Instruction (IMI Level III). IMI will be task based for individual and collective training for traditional subject matter, system capabilities, and TTP training. It will be expanded to include task-based training for digitization training for infantry units from Platoon through Brigade/Regimental levels. It has not been determined which tasks or combinations of individual and collective tasks will be developed for IMI. However, the full range of media will be explored; computer based instruction (CBI); computer based training (CBT); Compact Disc-Read Only Memory (CD-ROM), interactive courseware (ICW); interactive interactive video disc (IVD); computer managed instruction (CMI); electronic performance support system (EPSS); etc.

7.1.1 Product Lines

7.1.1.1 Training Information Infrastructure

The following sections 7.1.1.1.1 through 7.1.1.1.4 provide the detail regarding Training Information Infrastructure associated with the GCV in the Operational Domain environment.

7.1.1.1.1 Hardware, Software, and Communications Systems

- To support units in the field a comprehensive infrastructure dependent upon C4 - based connectivity will be required to support and electronically access the following capabilities of the training support system:
    - Technology studies, lessons learned and archival records stored at remote locations, such as Center for Army Lessons Learned (CALL) and the Central Army Registry (CAR) [formerly called the Reimer Digital Library (RDL)]
    - Unit and individual training records
    - Contractor (Military Standard (MIL STD)) technical manual data, doctrinal, and combat developer data, course catalogs, and SMEs
    - Networked common databases of tasks
- Infrastructure will also be required:
    - The Army Training Network (ATN) will be used to store, retrieve and support the development of interactive courseware (compliant with Department of Defense (DoD) standards to support reusability). The ATN will deliver task-based TSPs to the field as a contingency support operation (addressing realistic tactical engagements, mission planning and rehearsal (MPR), and learning to manage information in a variety of scenarios as needed).
    - To provide the capability for web-based implementation (IMI) support for classroom training and NET requirements.
    - To support the capability to conduct planning (Long/Short Range and Near term).
- The infrastructure must be installed IAW DOD standards, with sufficient capacity to support ease of movement and retrieval world-wide. Adherence to DoD standards will be required to ensure compatibility across systems and databases, to ensure joint interoperability for users, to ensure a Distributed Training Development client-server environment, and to ensure the materials can be delivered through a logically-centric depository in support of distance learning.
- The GCV program establishes a requirement for a resource center at proponent schools throughout TRADOC, capable of providing 24/7 training and training support via the Advanced Distributive Learning (ADL) means to the Training Domains. These resource centers must provide access to individual and collective branch specific training and training support products (e.g., STP, TTPs, Lessons Learned and PME) for the operational force. The GCV must provide the proponent school system with C4 - based connectivity, capable of providing dedicated training linkage to the branch resource centers, the NSC,

units and individuals at each of the Training Domains. Individuals must have access to full range of lifelong learning sources.

- This networked infrastructure will also be a key enabler of GCV BCT training, deployment, and operations while deployed. The Home Station (HS) Operating Capability (HSOC) will use the infrastructure for C4 activities to support training and combat operations support world - wide.

7.1.1.1.2 Storage, Retrieval, and Delivery

See paragraph 6.1.1.1.2 .

7.1.1.1.3 Management Capabilities

See paragraph 6.1.1.1.3 .

7.1.1.1.4 Other Enabling Capabilities

See paragraph 6.1.1.1.4 .

7.1.1.2 Training Products

To support unit sustainment training for the GCV, a full complement of training support product TSPs will be required. These include training support items/products such as Lesson Plans, Student Handouts, POI, Training Aids, Operator and Maintenance TMs, FMs, Maintenance charts and literature (to include troubleshooting and schematics), etc. Multimedia training support package TSPs that will train both operators and maintainers of the GCV. All training materials will be initially developed by the contractor and approved by the Maneuver Center of Excellence (and the Sustainment Center of Excellence for maintainer tasks) to ensure they meet the TRADOC standards and are consistent with proponent strategies for the affected AOC/MOS.

7.1.1.2.1 Courseware

See paragraph 6.1.1.2.1 .

7.1.1.2.2 Courses

See paragraph 6.1.1.2.2 for listing of the applicable courses. The courses that are related to the Operational Training Domain will normally be conducted and attended during the Reset/Training phase of the ARFORGEN Cycle. The Operational units will be focused on Collective unit training during the Train/Ready Phase of the ARFORGEN cycle, and will be deployed to either a DEF or a CEF assignment during the available phase of the ARFORGEN cycle.

7.1.1.2.3 Training Publications

See paragraph 6.1.1.2.3 .

7.1.1.2.4 TSP

- The GCV must be fielded with a full set of multi-purpose, individual and collective TSPs for use in operational units at home station, when deployed and at the CTCs (ADP 7-0 and ADRP 7-0). These TSPs must provide individual users training to operate from their stations in a stand-alone training mode (e.g. driver conducting virtual route rehearsal while the remainder of the crew conducts current operations). TSPs for collective training must provide realistic vignettes in increasingly challenging enemy and environmental complexities (including adaptive enemy behaviors and complex urban environments) so units and staffs can practice, rehearse, and train under expected mission conditions. Each TSP must include the initialization files for distributed ET. Individual through company-level TSPs will be developed for scenarios covering a representative set of GCV BCT missions. Additionally, the TSP will include or have access to an authoring tool for developing new TSPs or modify existing TSPs based on missions.
- **Warfighter Training Support Packages (WTSP).** IAW TR 350-70-1, 24 Feb 2012, **a** WTSP is a complete, detailed, exportable package integrating training products, materials, and information necessary to support operating force training. WTSPs provide the actual details for securing the materials, training venues, and other necessary resources identified in each Unit CATS training event supporting the HQDA-approved METLs for designated units. A WTSP is a product that uses ADDIE as outlined in TR 350-70, 6 Dec 2011, Chapter 6, section III.

7.1.1.3 TADSS

TADSS used for GCV training in the Operational Training Domain will leverage already developed systems and technology to the greatest extent, with the intent of maximizing standardized training and systems commonality for potential cost savings.

- The Material Developer (MD) must provide stand-alone TADSS for those tasks not supported by the ET capability or those required by the operational unit in lieu of actual GCVs. TADSS will be reconfigurable and reusable as well as interoperable with the entire GCV system in addition to interfacing with current and future ranges, CTC instrumentation, targetry and tactical engagement simulation. All will be high level architecture (HLA) compliant.
- ET for individual and crew - level tasks is the preferred solution for meeting all of the GCV training needs. However, some tasks not suitable for ET, must be trained using standalone aids or devices (e.g., maintenance desktop as possibly a Part Task Trainer (PTT)). The degree of fidelity of these TADSS will be determined by a detailed training task analysis, to be accomplished by the GCV vehicle manufacturer, which will be reviewed and approved by the various TRADOC proponent organizations. The numbers of simulators and their distribution to potential users will be defined as the institutional training strategy matures in system development and demonstration (SDD).

Training Aids, Devices, Simulations, and Simulators (TADSS)

Requirements for the

Ground Combat Vehicle			
Purpose/Function	NET	Institution	Unit (Operational)
Driver Trainer - Full motion		X	X
Close Combat Tactical Trainer		X	X
Gunnery Trainer (Crew Served Weapons)		X	X
E-TESS	X	X	X
Embedded Training	X	X	X
Part Task Trainers (PTT)		X	
Maintenance Trainers		X	
- Desktop Trainer		X	
- Hands-on Trainer (HOT)		X	

Dummy/Cut-away Training Rounds	X	X	X
Sub Caliber In-Bore Device (line of sight main gun)		X	X

Embedded Training in the GCV platform is the preferred method to support training. The GCV embedded training capability will provide a virtual driver, weapons, and commander - crew situational awarness (C2) training capability. It will provide a AAR data collection capability, support tactical engagement simulation, and Reach-back training capability.

7.1.1.3.1 Training Aids

See paragraph 6.1.1.3.1 .

7.1.1.3.2 Training Devices

See paragraph 6.1.1.3.2 .

7.1.1.3.3 Simulators

Full mission GCV operator simulators shall be provided to support operator training at unit locations. These simulators will be a realistic replication of the GCV to include interior configurations, line of sight, and size requirements. The simulators shall include realistic interactive equipment and simulation features that replicate all of the essential functions of an actual GCV. Stand alone simulators include a gunnery trainer and maneuver (CCTT) trainer. See paragraph 6.1.1.3.3 and 7.1.1.3 for additional information.

7.1.1.3.4 Simulations

Simulations are a method for implementing a model(s) over time; any representation or imitation of reality, to include environment, facilities, equipment, mechanical and maneuver operations, motion, role playing, leadership, and so forth. They are the representation of salient features, operations, or environment of a system, subsystem, or scenario that usually supports the constructive environment. To support incorporation of GCV into existing simulations and CCTT, the GCV must be modeled in both OneSAF, and SE Core. Simulations also include but are not limited to:

- MILES CVS / Tactical Engagement Simulation System (TESS)
- Army Games for Training
- Joint Mission Command Platform (JMC-P) White Box Trainer
- Maneuver Control System-Light (MCS-L)/MCS-L White Box
- Joint Conflict and Tactical Simulation (JCATTS)
- Web-based Interactive Multimedia Instruction D (IMI DTV)
- Joint Land Component Constructive Training Capability (JLCCTC)

See paragraph 6.1.1.3.4 for additional information.

7.1.1.3.5 Instrumentation

- The GCV ET tactical engagement simulation system (ETESS) capability must interoperate with the Combat Training Center-Instrumentation System (CTC-IS) via a High Level Architecture (HLA) construct. The embedded tactical engagement simulation system (TESS) will detect, transmit, and decode MILES lasers. Appended capability requirements include a weapons effect signature simulator (WESS), kill indicator, and radios for CTC instrumentation.
- GCV will require appended instrumentation for operability with the Home Station Instrumented Training System (HITS).

7.1.1.4 Training Facilities and Land

See paragraph 6.1.1.4 training facilities and land implications.

7.1.1.4.1 Ranges

See paragraph 6.1.1.4.1 for a list of ranges required to support traininf of the GCV.

7.1.1.4.2 Maneuver Training Areas (MTA)

See paragraph 6.1.1.4.2 .

7.1.1.4.3 Classrooms

See paragraph 6.1.1.4.3 .

7.1.1.4.4 CTCs

- The GCV ET tactical engagement simulation system (ETESS) capability must interoperate with the Combat Training Center-Instrumentation System (CTC-IS) via a High Level Architecture (HLA) construct.
- CTC observer/controllers will receive a DTT update prior to GCV unit assessment.

7.1.1.4.5 Logistics Support Areas

See paragraph 6.1.1.4.5 .

7.1.1.4.6 Mission Command Training Centers (MCTC)

MCTCs will be leveraged to conduct individual and collective training of the GCV mission command system (Joint Battle Command - Platform of beyond).

7.1.1.5 Training Services

The operational training domain requires the following management, acquisition, and general support services in order to implement the training concept and system training strategy.

7.1.1.5.1 Management Support Services

- Information management services.
    - Central Army Repository (CAR)
    - Courseware management services.
    - Army Training Network (ATN)/University of Mounted Warfare
    - ACCP management
    - TATS-C management
    - Multimedia courseware management
    - Distance learning (dL) management
- Courseware management services.
    - Army Training Network (ATN)/University of Mounted Warfare
    - ACCP management
    - TATS-C management
    - Multimedia courseware management
    - Distance learning (dL) management
- Requirements management services.
    - Training ammunition requirements as detailed by STRAC
    - TADSS requirements documentation
    - Range modernization and standardization requirements
    - Devices management services
    - Fielded devices inventory/sustainment and management
    - Material Army wide Tracking System (MATS)
    - Tactical Engagement Simulation (TES) management
    - Targetry support program
    - Instrumentation
- Logistics Support Concept: Operator maintenance for the TADSS shall be performed by assigned instructors/operators (I/O). All other maintenance will be performed by the contractor under a contract logistics support (CLS) contract for the entire TADSS life cycle. The material developer in coordination with PEO STRI will be responsible for planning, programming, budgeting, and executing CLS support IAW AR 700-17. CLS contracts will require that repair parts peculiar to the TADSS be acquired by their contractor prior to delivery. Provisioning of parts for TADSS will be performed by the contractor. Technical data and publications will be required for all TADSS-particular items, and operator manuals will be prepared IAW MIL-M-7298.
- Configuration management and upgrades/modifications of the TADSS, including hardware/software, will be the responsibility of the material developer for the life cycle of the TADSS system. TADSS changes will be incorporated concurrently with changes to the actual system, to ensure that the TADSS simulates the correct function in response to the performance of selected tasks. A New Equipment

Training (NET) program will be developed by the contractor for each TADSS as a Train-the-Trainer or Train the I/O course of instruction. The CLS package must be available for testing prior to initial operational capability (IOC).

- Material Army wide Tracking System (MATS)
- Tactical Engagement Simulation (TES) management
- Targetry support program
- Instrumentation
- Communicative technologies management
    - Department of the Army Multimedia/visual Information Production and Distribution Program (DAMPIPDP) management
    - Electronic Multimedia Information Capability (EMIC) management
    - Visual information /Training Support Center VI/TSC management

7.1.1.5.2 Acquisition Support Services

Development of all IMI products and instructors for NET will require contract support.

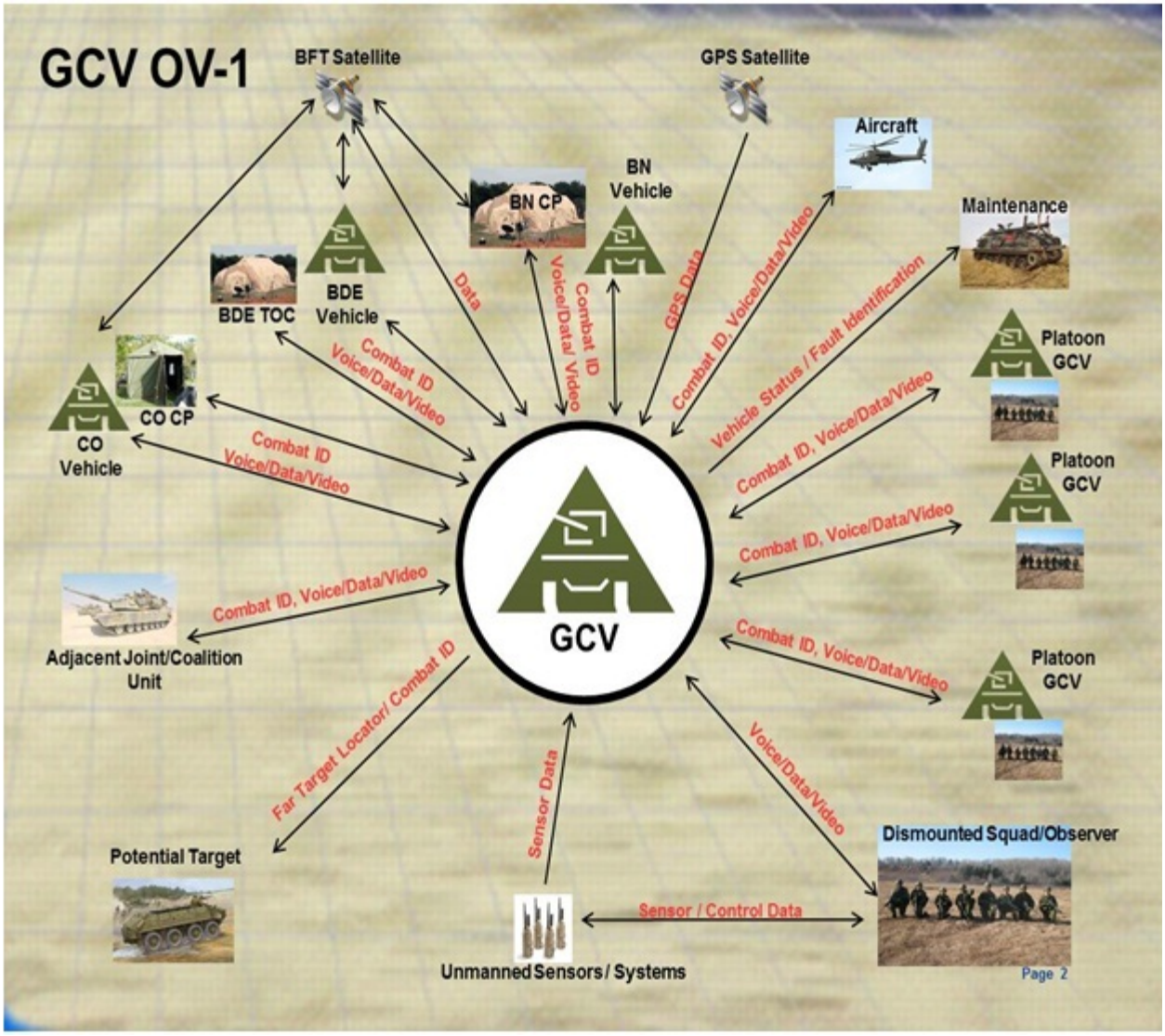
7.1.1.5.3 General Support Services

The material developer will provide through PEO-STRI TADSS development, procurement, distribution, and sustainment. General support services will be required for:

- Distribution and replication services
- Video/tele-training production services

7.1.2 Architectures and Standards Component

7.1.2.1 Operational View (OV)


GCV OV-1
BFT Satellite
GPS Satellite
Aircraft
BN CP
BN Vehicle
Maintenance
BDE TOC
BDE Vehicle
Data
Voice/Data/ Video
Combat ID
GPS Data
Combat ID, Voice/Data/Video
Vehicle Status / Fault Identification
Platoon GCV
CO CP
CO Vehicle
Combat ID Voice/Data/Video
Combat ID, Voice/Data/Video
Platoon GCV
Combat ID Voice/Data/Video
Combat ID, Voice/Data/Video
GCV
Combat ID, Voice/Data/Video
Adjacent Joint/Coalition Unit
Combat ID, Voice/Data/Video
Platoon GCV
Far Target Locator/ Combat ID
Sensor Data
Voice/Data/Video
Dismounted Squad/Observer
Potential Target
Sensor / Control Data
Unmanned Sensors / Systems
Page 2

7.1.2.2 Systems View (SV)

See paragraph 6.1.2.2 .

7.1.2.3 Technical View (TV)

See paragraph 6.1.2.3 for a discussion of the Technical View.

7.1.3 Management, Evaluation, and Resource (MER) Processes Component

MER process components, both internal and external drivers, guide the development, maintenance, and sustainment of the TSS and are described in the following sections 7.1.3.1 through 7.1.3.3.

7.1.3.1 Management

- Where possible the GCV systems will use facilities and support infrastructure currently required by displaced systems. Training development will focus on producing products that are capable of being used in the operational training domain and focused only on combat critical tasks.
- Unit leadership and Soldiers will be asked to routinely evaluate training events and products to determine how best to improve the quality and efficiency of instruction and training events to provide the best quality training with the least expenditure of resources.

7.1.3.1.1 Strategic Planning

- The Operational Training Domain development and collective unit training of this system will be mutually supporting of the Army Campaign Plan to "Grow the Army" as well as the incorporation into the Family of Systems (FoS) technology and development. PM-ABCT and PM GCS conduct strategic planning based on guidance from Army Capability and Integration Command (ARCIC).
- The development and fielding of the GCV supports Army Transformation, Army Modernization, and Training Transformation and is consistent with the guidance found in:
    - National Defense Strategy
    - Joint Vision 2020
    - The Army Plan and other Service Plans
    - TRADOC supporting plan to the Army Transformation Campaign Plan (ATCP)
    - TSS Strategic Plan (when published)
    - TSS Program Strategy Formulation (guidance to be published)

7.1.3.1.2 Concept Development and Experimentation (CD&E)

See paragraph 6.1.3.1.2 .

7.1.3.1.3 Research and Studies

The research and studies of the system will be in compliance with all JCIDS requirements and will be determined at a later date.

7.1.3.1.4 Policy and Guidance

The documents listed below apply to the design, procurement, and use of the GCV:

- AR 350-1 and AR 350-38
- TRADOC Regulations 350-70 and 71-20
- TRADOC Pamphlet 71-20
- Command Training Guidance
- Training Doctrine Manuals (ADP 7-0 and ADP 7-1 with ADRP 7-0 and ADRP 7-1)
- LOGSA Pamphlet 700-3, Total Package Fielding
- TRADOC Regulation 350-70-1
- TP 525-8-2 w/ Ch 1, The Army Learning Concept [Army Learning Model] 2015

7.1.3.1.5 Requirements Generation

This STRAP supports the CDD to which it is attached.

7.1.3.1.6 Synchronization

Fielding of the GCV will be synchronized with the following as applicable:

- Unit Set Fielding
- ARFORGEN
- Army Transformation Campaign Plan (ATCP)
- Implementation Plan for Transforming DoD Training
- TADSS distribution plans

7.1.3.1.7 Joint Training Support

Initiatives that support the alignment of the Army TSS with joint training support initiatives include:

- Joint Professional Military Education
- Joint Advanced Distributed Learning Co-Labs
- Joint National Training Capability (JNTC)
- Joint Assessment and Enabling Capability (JAEC)
- Joint Knowledge Development and Distribution Capability (JKDDC)

7.1.3.2 Evaluation

Refer to paragraph 6.1.3.2 .

7.1.3.2.1 Quality Assurance (QA)

QAO will be responsible for conducting any Post Fielding Training Effectiveness Analysis (PFTEA). Observations will be reported to respective DOT for corrective actions.

7.1.3.2.2 Assessments

- MCoE will start assessing the GCV training program one year after training is implemented. The assessment will evaluate the effectiveness and efficiency of institutional training at the individual and unit levels; identify needed changes to increase unit training proficiency and combat mission capabilities; and identify, evaluate, and resolve unit and institutional standardization issues.
- The Sustainment Center of Excellence (SCoE) will conduct two assessments of the GCV maintenance training program to (1) evaluate training effectiveness and efficiency for institutional and unit individual and collective training and (2) identify, evaluate, and resolve unit and institutional standardization issues. The first assessment will begin one year after the interim training strategy is implemented, and the second will begin six months later.
- Assessment results will be provided to the MCoE, CDID and MCoE, DOT; to each affected MOS training facility for additional action; and to the MCoE Training Development Division (TDD), DOTD.

7.1.3.2.3 Customer Feedback

The following support services will be used to access customer feedback:

- Electronic media for surveys, help desks, collaboration
- Interviews
- Questionnaires

7.1.3.2.4 Lessons Learned/After-Action Reviews (AARs)

Each proponent school will leverage the Center for Army Lessons Learned (CALL) and the Mission Command Knowledge System (MCKS) databases for new TTP as well as conducting face to face interviews with units/individuals returning from theater to ensure training programs and instruction remain current/relevant.

7.1.3.3 Resource Processes

PM-GCV is responsible for all funding to support training; development; NET; associated training products, including TADSS and ammunition.

See paragraph 6.1.3.3 for further detailed information on resource requirements.

8.0 Self-Development Training Domain

The Self-Development Training Domain is planned, goal-oriented learning that reinforces and expands the depth and breadth of an individual's knowledge base, self-awareness, and situational awareness; it complements institutional and operational learning objectives, enhances professional competence and supports personal learning objectives. Within this domain, Army leaders expect Soldiers and Army civilians to fill in their skills, knowledge, and behavior gaps from institutional training and operational assignments.

8.1 Self-Development Training Concept and Strategy

This strategy applies to AC/RC enlisted, noncommissioned officer, warrant officer, and commissioned officer. Multi-media training, and distributive learning will be used as a mainstay of Self-development training. Web-based IMI products will be derived from the NET training support package and will provide training on individual and crew system specific tasks.

8.1.1 Product Lines

The following are product lines suitable for Self-Development Domain training:

- Web based instruction
- IMT, ALC, and Officer Education System (OES)
- Soldier Training Publications for individual training
- TADSS
- Embedded Training Capabilities
- Distance Learning capabilities and assets

8.1.1.1 Training Information Infrastructure

TII includes the storage, Retrieval, and Delivery systems; Management Capabilities; and Other Enabling Capabilities as discussed in the following paragraphs.

8.1.1.1.1 Hardware, Software, and Communications Systems

- Commercial capabilities can provide WEB access to training products being stored on Army Knowledge Online (AKO), Army Learning Management System (ALMS), Army Training Network (ATN), and other various repositories and locations associated with Distributed Learning training.
- Distributed Learning resources available at Distance Learning Centers, home-station training resource facilities, or through the WEB based systems will all contribute to the self-learning training environment of the individual soldier operator and crew-member of the GCV.

8.1.1.1.2 Storage, Retrieval, and Delivery

Training products will be stored in the training development capabilities program and on the Army Training Network (ATN). Distributed Leaning (dL) repositories and the Army Learning Management Systems (ALMS) will house dL products for self-development training.

8.1.1.1.3 Management Capabilities

The consolidated database of record (CDBR) maintained by Combined Arms Center (CAC) is the management control tool for approved individual and collective tasks, this is key to tracking TSS products associated with BFoV training. Information and training management capabilities include the Digital Training Management System (DTMS), the Army Learning Management System (ALMS), and the Individual Training Resource Management (ITRM) System.

8.1.1.1.4 Other Enabling Capabilities

The self-learning Domain will rely on the following distributed learning enabling capabilities: Army Knowledge-Online (AKO) collaboration groups; the Joint Training Information System (JTIMS); the Command, Control, Communications, Computers, and Intelligence and Reconnaissance (C4ISR) capabilities; the Global Information Grid (GIG); as well as the Life Long Learning as mandated in TRADOC Pam 525-8-2 w/ Ch 1 dated 6 Jun 2011.

8.1.1.2 Training Products

To support Self-Development training for the GCV, a full complement of training support product TSPs will be required. These include training support items/products such as on-line Student training documents and resources, electronic Training Aids, Operator and Maintenance TMs, FMs, Maintenance charts and literature (to include troubleshooting and schematics), etc. Multimedia training support package TSPs that will train both operators and maintainers of the GCV. All training materials will be initially developed by the contractor and approved by the Maneuver Center of Excellence (and the Sustainment Center of Excellence for maintainer tasks) to ensure they meet the TRADOC standards and are consistent with proponent strategies for the affected AOC/MOS. All these training products will be available for access from the Central Army Registry (CAR) and available on-line from the Army Training Network (ATN).

8.1.1.2.1 Courseware

The PM-GCV will provide a GCV multi-media training support package that can be used to support training at installations, sustainment training and distance learning training. The PM-GCV will also be responsible for upgrading the TSP as newer versions of software become available and modifications are made to the GCV system. The TRADOC developed TTP package will detail the concept of operations, effects on mission planning, capabilities and limitations of the equipment, and broadcast systems received by the system.

8.1.1.2.2 Courses

The PM-GCV will provide level-3 IMI for GCV operators and maintainers in the Self Development Training Domain.

8.1.1.2.3 Training Publications

See paragraph 6.1.1.2.3 for a list of applicable training publications.

8.1.1.2.4 Training Support Package (TSP)

See paragraph 6.1.1.2.4 for a discussion of Training Support Packages.

8.1.1.3 Training Aids, Devices, Simulators and Simulations (TADSS)

Not Applicable

8.1.1.4 Training Facilities and Land

8.1.1.4.1 Ranges

Not applicable to the self-learning training domain.

8.1.1.4.2 Maneuver Training Areas (MTA)

Not applicable to the self-learning training domain.

8.1.1.4.3 Classrooms

Classrooms will continue to be key resources in implementing the Army training strategy, including support to BCT training at home stations (HS) and in the distance learning (dl) environment. Site visits may be required to determine if the capabilities offered by dL programs and the training network, particularly the hardware and facilities, are sufficient to GCV training needs. Connectivity and training delivery systems will be capable of direct interfaces with remote databases, tactical engagement systems, and other synthetic training environments to support dL efforts with the opportunity to participate in LVCG training as observers or active participants. The Reserve Components have dedicated dl facilities in geographically distributed facilities designed to support the self learning and distance learning environments. Active component allocation of self learning centers and distance learning centers classroom facilities will be dependent on available instillation allocated facilities administered by IMCOM.

8.1.1.4.4 CTCs

Self learning training domain requirements do not include the use of CTC's.

8.1.1.4.5 Logistics Support Areas

Not applicable to the self learning training domain.

8.1.1.4.6 Mission Command Training Centers (MCTC)

Not applicable to the self-development training domain.

8.1.1.5 Training Services

Not Applicable

8.1.2 Architectures and Standards Component

Not Applicable

8.1.3 Management, Evaluation, and Resource (MER) Processes Component

8.1.3.1 Management

Not Applicable

8.1.3.2 Evaluation

Assessments and customer feedback mechanisms will be used to measure, audit, and analyze the efficiency and effectiveness of training.

8.1.3.2.1 Quality Assurance (QA)

IMI and dL products, used for institutional and self-development training, undergo a stringent series of checks and balances (story boarding, alpha and beta tests, SME reviews) to ensure that training is task based, current and relevant.

8.1.3.2.2 Assessments

As part of the evaluation phase of the ALPS process, Post Fielding Training Effectiveness Analysis (PFTEA) will be conducted. The findings will be used to provide lessons learned information on the training development effort associated with product improvement.

8.1.3.2.3 Customer Feedback

The following support services will be used to collect feedback from Soldiers using self-development software.

- Electronic media for surveys, help desks, collaboration
- Interviews
- Questionnaires

8.1.3.2.4 Lessons Learned/After-Action Reviews (AARs)

Each proponent school will leverage the Center for Army Lessons Learned (CALL) and the Mission Command Knowledge System (MCKS) databases for new TTP as well as conducting face to face interviews with units/individuals returning from theater to ensure training programs and instruction remain current/relevant.

8.1.3.3 Resource Processes

See paragraph 6.1.3.3 for a discussion of resources required for the training development process as it applies to the Self Learning Training Domain.

A Milestone Annex

TRAINING DEVELOPMENT MILESTONE SCHEDULE **- SHEET A -**		PAGE 1 OF 1 PAGES	REQUIREMENTS CONTROL SYMBOL
SYSTEM: Ground Combat Vehicle - IFV	ACAT:1D	OFFICE SYMBOL: ATZK-TDT-N	AS OF DATE: 29 November 2012
POINTS of CONTACT	NAME	OFFICE SYMBOL	TELEPHONE
MATERIEL COMMAND	Craig Carson	PM GCV	(586(282-9850
TRADOC PROPONENT			
TCM ABCT	George Moore	ATZB-CIH	(706) 545-6428
Combat Development	Martin Plummer	ATZB-CIK	(706) 626-7844
Training Development	Jim Morris	ATZK-TDT	(706) 545-3996
CAC-T	CPT Joseph L. Jackson	ATIC-DSM	(757) 878-0557
SUPPORTING PROPONENTS			
Aviation CoE	Robert Story	ATZQ-TDT-N	(334) 255-9655
Sustainment CoE	Thomas Duran	ATCL-TS	(804) 765-1202
Fires CoE	Richard Van Horn	ATSF-DE	(580) 442-4280
Signal CoE	Catherine Collins		(706) 791-6918
Military Police School	Dan O'Brian		(573) 563-8178
ITEM	DATE	RESPONSIBLE AGENCY / POC	TELEPHONE
Mission Needs Statement			
SMMP			
Materiel Requirements Document		MCoE CDID / Martin Plummer	(706)626-7844
ILSP			

Training Test Support Package	TBD	MCoE DOTD / Starr Berenbroick	(706) 544-8545
QQPRI			
BOIP			
NETP	FY18	PM GCV / Craig Carson	(586) 282-9850

COMMENTS:

TRAINING DEVELOPMENT MILESTONE SCHEDULE - SHEET B	PAGE 1 OF 1 PAGES	REQUIREMENTS CONTROL SYMBOLE
SYSTEM: GCV - IFV	TRADOC SYMBOLE: ATZK-TDT-N	AS OF DATE: 13 January 2013

TRAINING PACKAGE ELEMENT / PRODUCT

LEGEND:	MILESTONES BY QUARTER																
	FY16			FY18				FY20				FY21				FY22	
	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q
Initial Individual Training Plan	X																
Final ITP					X												
Course Administrative Data						X											

Resident POIs to TOMA										X							
Instructor & Key Personnel Training											X						
First Unit Equipped														X			
Resident Training Start Date																X	

NOTE :

COMMENTS: FUE is projected to occur in the 3Q FY21; Resident (Institutional) training will begin in 1Q FY22.

NOTE: The following table is optional; however, it is useful for populating SHEET B above and provides greater detail for each milestone. If not used, delete from this section before downloading.

Individual Training Plan (Per each ITP)	
Milestone:	Date:
1. Initial Individual Training PLan (ITP) submitted.	3Q FY16
2. ITP Submitted	2Q FY18
3. Course Administrative Data (CAD) submitted.	3Q FY18
4. Program of Instruction (POI) submitted.	3Q FY20
5. Digitized copy archived.	TBD
6. Resident course start date (NLT 12 months following FUE.	1Q FY22

Army Correspondence Course Program

(Only as a dL portion of a TATS course)

Milestone:	Date:
1. Requirement identified and submitted for approval.	TBD
2. Requirement approved by HQ TRADOC	TBD
3. Development initiated.	TBD
4. Advance breakdown sheet submitted.	TBD
5. Digitized camera-ready copy (CRC) submitted.	TBD
6. Subcourse material ready for replication/distribution.	TBD

Field Manuals (FMs)

Milestone:	Date:
1. Requirements identified.	TBD
2. Draft FM changes validated.	TBD
3. FM outlines approved.	TBD
4. FM coordinating draft completed.	TBD
5. Print/digitization request initiated.	TBD
6. Approved digitized CRC submitted.	TBD
7. Replication/distribution completed.	TBD

Army Training Literature

Note: Includes the Soldiers' Manual (SM), Trainers' Guide (TG), and Combined Arms Training Strategy (CATS).

Milestone:	Date:
1. Analysis completed.	TBD
2. Draft CATS and TG completed.	TBD
3. CAC-T staffing.	TBD
4. Digitized CRC submitted.	TBD
5. Replication/distribution completed.	TBD

Interactive Multimedia Instruction (IMI) / Distributive Learning

Milestone:	Date:

1. Requirements identified and submitted for approval.	TBD
2. Requirements approved by CAC-T and TRADOC.	TBD
3. Resources identified.	TBD
4. Courseware developed and validated.	TBD
5. Master materials to CAC-T for replication and distribution.	TBD
6. Replication/distribution completed.	TBD

Training Effectiveness Analysis (TEA)

(Conducted in-house, by contract, Training Development and Analysis Activity [TDAA], TRADOC Analysis Center

[TRAC],or Program Manager [PM])

Milestone:	Date:
1. TEA dyrubg capabilities development.	TBD
2. TEA updated for Milestone Decision Review A.	TBD
3. TEA updated for Milestone Decision Review B.	TBD
4. TEA updated for Milestone Decision Review C.	TBD
5. Post-Fielding TEA (PFTEA) planned.	TBD

Training Aids, Devices, Simulators, and Simulations (TADSS)

Milestone:	Date:
1. High risk, hard-to-train tasks identified.	1Q FY15
2. Need for TADSS identified.	June 09
3. TADSS concept validated	TBD
4. TADSS incorporated into the STRAP (part of the CATS)	Oct 09
5. Analytical justification using the TEA provided.	TBD
6. TSS CDD/CPD developed, if required	TBD
7. TADSS effectiveness validated.	TBD
8. TADSS incorporated into the ICD, CDD, CPD, STRAP	Sep 09

9. MOS-specific milestones/requirements for TADSS developed and incorporated in the integrated training strategy (ITS).	TBD
Training Facilities and Land	
Milestone:	Date:
1. Range and facility requirements identified.	TBD
2. Identification of construction requirements completed.	TBD
3. Construction requirements submitted to MACOM.	TBD
4. Requirements validated and updated.	TBD
5. Supporting requirements identified and availability coordinated.	TBD
6. Installation and other construction requirements submitted to MACOM.	TBD
7. Refined construction requirements and range criteria forwarded to MACOM, IMA, Chief of Engineering.	TBD
8. Construction initiated.	TBD
Training Ammunition	
Milestone:	Date:
1. Ammunition identified.	TBD
2. Initial ammunition requirements validated.	TBD
3. Requirements included in the CDD / STRAP.	TBD
4. Ammunition item developed.	TBD
5. Validation and test completed.	TBD
6. Ammunition requirements identified in the ITP.	TBD
7. Requirements provided to installation/MACOM manager.	TBD
8. Requirements included in DA Pam 350-38.	TBD
9. Production entered.	TBD
Training Equipment	

Milestone:	Date:
1.	TBD
2.	TBD
Training Services	
Milestone:	Date:
1. Contractor Logistic Support	3Q FY21
2. Contractor NET Support	3Q FY20
3. Contractor DET Support	3Q FY20

B References

1. Capstone Concepts for Joint Operations (CCJO), Version 3.0, 15 January 09.Chairman Joint Chief of Staff Instruction (CJCSI) 3170.01G, Joint

2. Capabilities Integration and Development System (JCIDS), 1 March 09.

3. Operational Requirements Document fro the Future Combat Systems, 27 April 06 JROC Approved/Validated Change 2, 27 April 2006

4. Capstone System Training Plan (STRAP) for the Future Combat System (FCS) Family of Systems (FoS), (version 1.0), 19 September 2007

5. Capability Development Document for the Future Combat Systems, 30 January 2008

6. DRAFT - Capability Development Document for Stryker Family of Vehicles (FoV), 7 May 2009

7. US Army Training and Doctrine Command Planning Order (PLANORD) 09-0001, Development of BCT Modernization Plan, 12 May 09

8. Ground Combat Vehicle Operational Mode Summary/Mission Profile, 15 October 2009

9. DRAFT - Capability Development Document for Ground Combat Vehicle (GCV) Core, 13 October 2009

10. The Army Training Strategy, 3 October 2012

C Coordination Annex

Organization/POC (Date)	Summary of Comments Submitted (A/S/C)			Comments Accepted/ Rejected						Rationale for Non-Acceptance - S, C
				Accepted			Rejected			
	A	S	C	A	S	C	A	S	C	
v1.2.6 Jerry E Niggemann 2013/04/19 - 2013/04/29	Document Accepted As Written			0	0	0	0	0	0	-
v1.2.5 Paul J Kizinkiewicz 2013/04/19 - 2013/04/29	Actively Reviewing			0	0	0	0	0	0	-
v1.2.4 Approvals - Jerry E Niggemann 2013/04/19 - 2013/04/29	Document Accepted As Written			0	0	0	0	0	0	-
v1.2.3 Approvals - Paul J Kizinkiewicz 2013/04/19 - 2013/04/29	Document Accepted As Written			0	0	0	0	0	0	-
v1.2.2 Approvals - Jerry E Niggemann 2013/04/19 - 2013/04/29	Document Accepted As Written			0	0	0	0	0	0	-
v1.2.1 Approvals - Paul J Kizinkiewicz 2013/04/19 - 2013/04/29	Document Accepted As Written			0	0	0	0	0	0	-
v1.2 Army -										

TCM-Gaming 2013/02/07 - 2013/02/15	2	2	0	2	2	0	0	0	0	
v1.2 Army - ATSC Fielded Devices 2013/02/06 - 2013/02/15	Document Accepted As Written			0	0	0	0	0	0	-
v1.2 Army - TCM-Virtual (CS/CSS) 2013/02/05 - 2013/02/15	Document Accepted As Written			0	0	0	0	0	0	-
v1.2 Army - TCM-Live 2013/02/05 - 2013/02/15	0	1	1	0	1	1	0	0	0	
v1.2 Army - TCM TADLP 2013/02/05 - 2013/02/15	1	0	0	1	0	0	0	0	0	
v1.2 Army - TCM ITE 2013/02/05 - 2013/02/15	0	5	0	0	5	0	0	0	0	
v1.2 Army - TCM Constructive 2013/02/05 - 2013/02/15	No Comments Submitted			0	0	0	0	0	0	-
v1.2 Army - TCM ATIS 2013/02/05 - 2013/02/15	No Comments Submitted			0	0	0	0	0	0	-
v1.2 Army - SIGCoE - Signal School 2013/02/05 -	No Comments Submitted			0	0	0	0	0	0	-

2013/02/15										
v1.2 Army - SCoE 2013/02/05 - 2013/02/15	No Comments Submitted			0	0	0	0	0	0	-
v1.2 Army - MSCoE - MANSCEN 2013/02/05 - 2013/02/15	2	0	0	1	0	0	1	0	0	
v1.2 Army - MCCoE 2013/02/05 - 2013/02/15	No Comments Submitted			0	0	0	0	0	0	-
v1.2 Army - LD&E 2013/02/05 - 2013/02/15	No Comments Submitted			0	0	0	0	0	0	-
v1.2 Army - IMCOM 2013/02/05 - 2013/02/15	1	0	0	1	0	0	0	0	0	
v1.2 Army - FCoE - Field Artillery 2013/02/05 - 2013/02/15	2	0	0	1	0	0	1	0	0	
v1.2 Army - DAMO-TRS 2013/02/05 - 2013/02/15	0	2	0	0	2	0	0	0	0	
v1.2 Army - CTCD 2013/02/05 - 2013/02/15	No Comments Submitted			0	0	0	0	0	0	-
v1.2 Army - CAC-T; Training Management Dir 2013/02/05 - 2013/02/15	3	5	0	3	5	0	0	0	0	

v1.2 Army - Brigade Modernization Cmd (BMC) 2013/02/05 - 2013/02/15	No Comments Submitted			0	0	0	0	0	0	-
v1.2 Army - ATSC TSAID 2013/02/05 - 2013/02/15	No Comments Submitted			0	0	0	0	0	0	-
v1.2 Army - ATSC 2013/02/05 - 2013/02/15	0	1	0	0	1	0	0	0	0	
v1.2 Army - Army National Guard 2013/02/05 - 2013/02/15	No Comments Submitted			0	0	0	0	0	0	-
v1.2 Army - AMEDD Center & School 2013/02/05 - 2013/02/15	No Comments Submitted			0	0	0	0	0	0	-
v1.1 Peer - TCM-Virtual (CS/CSS) 2012/12/05 - 2013/01/04	No Comments Submitted			0	0	0	0	0	0	-
v1.1 Peer - TCM-Live 2012/12/05 - 2013/01/04	No Comments Submitted			0	0	0	0	0	0	-
v1.1 Peer - TCM-HBCT 2012/12/05 - 2013/01/04	No Comments Submitted			0	0	0	0	0	0	-
v1.1 Peer - SCoE										

2012/12/05 - 2013/01/04	5	5	1	5	5	1	0	0	0	
v1.1 Peer - PM-HBCT 2012/12/05 - 2013/01/04	No Comments Submitted			0	0	0	0	0	0	-
v1.1 Peer - MSCoE - MANSCEN 2012/12/05 - 2013/01/04	26	0	1	24	0	1	2	0	0	
v1.1 Peer - FORSCOM G3 2012/12/05 - 2013/01/04	No Comments Submitted			0	0	0	0	0	0	-
v1.1 Peer - FCoE - Field Artillery 2012/12/05 - 2013/01/04	3	1	0	3	1	0	0	0	0	
v1.1 Peer - Combined Arms Center 2012/12/05 - 2013/01/04	No Comments Submitted			0	0	0	0	0	0	-
v1.1 Peer - CAC-T; Training Management Dir 2012/12/05 - 2013/01/04	1	42	0	1	41	0	0	1	0	
v1.1 Peer - ATSC 2012/12/05 - 2013/01/04	No Comments Submitted			0	0	0	0	0	0	-
v1.1 Peer - Army National Guard 2012/12/05 - 2013/01/04	No Comments Submitted			0	0	0	0	0	0	-

v1.1 Peer - Army Material Command (AMC), G3 2012/12/05 - 2013/01/04	No Comments Submitted	0	0	0	0	0	0	-
v1.1 Peer - 2nd Infantry Division 2012/12/05 - 2013/01/04	No Comments Submitted	0	0	0	0	0	0	-

Key
Completed Review with Comments
Completed Review, No Comments
Active Review Occurring

DEPARTMENT OF THE ARM
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Plan for the Ground Combat

350-70, Army Learning Policy

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, Army Training and Leader

em Training Plan for the Gro
System Training Plan will be
e approval date.

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orate of Training and Doctrin
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H. R. MCMASTE
Major General, U
Commanding

Ground combat Veh